SHARP

OPERATION MANUAL

MODEL
XG-MB70X

MULTIMEDIA PROJECTOR

Notevision

PICTURE BY DLP™ A TEXAS INSTRUMENTS TECHNOLOGY

香港電器安全規格
（國際電工委員會規格適合）

IMPORTANT

For your assistance in reporting the loss or theft of your Projector, please record the Serial Number located on the bottom of the projector and retain this information. Before recycling the packaging, please ensure that you have checked the contents of the carton thoroughly against the list of “Supplied accessories” on page **10**.

Model No.: XG-MB70X

Serial No.:

This apparatus complies with the requirements of Council Directives 89/336/EEC and 73/23/EEC as amended by Council Directive 93/68/EEC.

Dieses Gerät entspricht den Anforderungen der EG-Richtlinien 89/336/EWG und 73/23/EWG mit Änderung 93/68/EWG.

Ce matériel répond aux exigences contenues dans les directives 89/336/CEE et 73/23/CEE modifiées par la directive 93/68/CEE.

Dit apparaat voldoet aan de eisen van de richtlijnen 89/336/EEG en 73/23/EEG, gewijzigd door 93/68/EEG.

Dette udstyr overholder kravene i direktiv nr. 89/336/EEC og 73/23/EEC med tillæg nr. 93/68/EEC.

Quest’ apparecchio è conforme ai requisiti delle direttive 89/336/EEC e 73/23/EEC, come emendata dalla direttiva 93/68/EEC.

Αυτή η συσκευή συμμορφώνεται με τις απαιτήσεις των οδηγιών του Συμβουλίου 89/336/ΕΟΚ και 73/23/ΕΟΚ όπως τροποποιήθηκαν από την οδηγία του Συμβουλίου 93/68/ΕΟΚ.

Este equipamento obedece às exigências das directivas 89/336/CEE e 73/23/CEE, na sua versão corrigida pela directiva 93/68/CEE.

Este aparato satisface las exigencias de las Directivas 89/336/CEE y 73/23/CEE, modificadas por medio de la 93/68/CEE.

Denna utrustning uppfyller kraven enligt riktlinjerna 89/336/EEC och 73/23/EEC så som kompletteras av 93/68/EEC.

Dette produktet oppfyller betingelsene i direktivene 89/336/EEC og 73/23/EEC i endringen 93/68/EEC.

Tämä laite täyttää direktiivien 89/336/EEC ja 73/23/EEC vaatimukset, joita on muutettu direktiivillä 93/68/EEC.

Bu cihaz Konsey Direktifi 93/68/EEC tarafindan düzeltilen 89/336/EEC ve 73/23/EEC Konsey Direktiflerinin gerekliliklerine uygundur.

Tento přístroj je v souladu s požadavky směrnic rady 89/336/EEC a 73/23/EEC, tak jak byly upraveny směrnicí rady 93/68/EEC.

See seade on vastavuses Nõukogu Direktiivis nr 89/336/EEC ja 73/23/EEC esitatud nõuetega, vastavalt Nõukogu Direktiivis nr 93/68/EEC esitatud parandustele

Ez a készülék megfelel a Tanács által kiadott, 89/336/EGK és 73/23/EGK Irányelveknek és az utóbbit módosító 93/68/EGK Irányelvnek

Ši ierice atbilst tehniskam prasibam pec 89/336/EEC un 73/23/EEC direktivam papildinats ar direktivu 93/68/EEC.

Šis prietaisas atitinka ES Tarybos direktyvu 89/336/EEC ir 73/23/EEC patikslintos direktyvos 93/68/EEC reikalavimus.

To urządzenie spełnia wymagania dyrektyw 89/336/EEC i 73/23/EEC wraz z poprawkami dyrektywy 93/68/EEC.

Tento prístroj je v súlade s požiadavkami smerníc rady
89/336/EEC a 73/23/EEC tak ako boli upravené smernicou rady 93/68/EEC.

Ta aparat je v skladu z zahtevami Direktiv Sveta 89/336/EEC in 73/23/EEC kot je navedeno v dopolnilu k Direktivi Sveta 93/68/EEC.

SPECIAL NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 5A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked ♆ or ⟐ and of the same rating as above, which is also indicated on the pin face of the plug, must be used.
Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.
In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut off the mains plug and fit an appropriate type.

DANGER:

The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.
Under no circumstances should the cut-off plug be inserted elsewhere into a 5A socket outlet, as a serious electric shock may occur.
To fit an appropriate plug to the mains lead, follow the instructions below:

WARNING:

THIS APPARATUS MUST BE EARTHED.

IMPORTANT:

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

- The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
- The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
- The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

The supplied CD-ROM contains operation instructions in English, German, French, Swedish, Spanish, Italian, Dutch, Portuguese, Chinese (Traditional Chinese and Simplified Chinese), Korean and Japanese. Carefully read through the operation instructions before operating the projector.

Die mitgelieferte CD-ROM enthält Bedienungsanleitungen in Englisch, Deutsch, Französisch, Schwedisch, Spanisch, Italienisch, Niederländisch, Portugiesisch, Chinesisch (Traditionelles Chinesisch und einfaches Chinesisch) und Koreanisch. Bitte lesen Sie die Bedienungsanleitung vor der Verwendung des Projektors sorgfältig durch.

Le CD-ROM fourni contient les instructions de fonctionnement en anglais, allemand, français, suédois, espagnol, italien, néerlandais, portugais, chinois (chinois traditionnel et chinois simplifié) et coréen. Veuillez lire attentivement ces instructions avant de faire fonctionner le projecteur.

Den medföljande CD-ROM-skivan innehåller bruksanvisningar på engelska, tyska, franska, svenska, spanska, italienska, holländska, portugisiska, kinesiska (traditionell kinesiska och förenklad kinesiska) och koreanska. Läs noga igenom bruksanvisningen innan projektorn tas i bruk.

El CD-ROM suministrado contiene instrucciones de operación en inglés, alemán, francés, sueco, español, italiano, holandés, portugués, chino (chino tradicional y chino simplificado) y coreano. Lea cuidadosamente las instrucciones de operación antes de utilizar el proyector.

Il CD-ROM in dotazione contiene istruzioni per l'uso in inglese, tedesco, francese, svedese, spagnolo, italiano, olandese, portoghese, cinese (cinese tradizionale e cinese semplificato) e coreano. Leggere attentamente le istruzioni per l'uso prima di usare il proiettore.

De meegeleverde CD-ROM bevat handleidingen in het Engels, Duits, Frans, Zweeds, Spaans, Italiaans, Nederlands, Portugees, Chinees (Traditioneel Chinees en Vereenvoudigd Chinees) en Koreaans. Lees de handleiding zorgvuldig door voor u de projector in gebruik neemt.

O CD-ROM fornecido contém instruções de operação em Inglês, Alemão, Francês, Sueco, Espanhol, Italiano, Holandês, Português, Chinês, (Chinês Tradicional e Chinês Simplificado) e Coreano. Leia cuidadosamente todas as instruções de operação antes de operar o projetor.

附送之CD-ROM光碟中，有用英文、德文、法文、瑞典文、西班牙文、意大利文、荷蘭文、葡萄牙文、中文（繁體中文和簡體中文）和韓國文所寫的使用說明書。在操作本投影機之前，請務必仔細閱讀整本使用說明書。

附送之CD-ROM光碟中，有用英文、德文、法文、瑞典文、西班牙文、意大利文、荷兰文、葡萄牙文、中文（繁体中文和简体中文）和韩国文所写的使用说明书。在操作本投影机之前，请务必仔细阅读整本使用说明书。

제공된 CD-ROM에는 영어, 독일어, 프랑스어, 스웨덴어, 스페인어, 이탈리아어, 네덜란드어, 포르투갈어, 중국어(번체자와 간체자), 그리고 한국어로 작성된 조작 설명서가 포함되어 있습니다. 프로젝터를 조작하기 전에 조작 지침을 상세하게 숙지하십시오.

Before using the projector, please read this operation manual carefully.

Introduction ENGLISH

There are two important reasons for prompt warranty registration of your new SHARP Projector, using the REGISTRATION CARD packed with the projector.

1. **WARRANTY**
   This is to assure that you immediately receive the full benefit of the parts, service and labor warranty applicable to your purchase.
2. **CONSUMER PRODUCT SAFETY ACT**
   To ensure that you will promptly receive any safety notification of inspection, modification, or recall that SHARP may be required to give under the 1972 Consumer Product Safety Act, PLEASE READ CAREFULLY THE IMPORTANT "LIMITED WARRANTY" CLAUSE. U.S.A. ONLY

WARNING: High brightness light source. Do not stare into the beam of light, or view directly. Be especially careful that children do not stare directly into the beam of light.

WARNING: To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

See bottom of projector.

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT REMOVE SCREWS EXCEPT SPECIFIED USER SERVICE SCREW.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS EXCEPT LAMP UNIT. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk or electric shock to persons.

The exclamation point within a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING: FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment. U.S.A. ONLY

INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense. U.S.A. ONLY

The enclosed computer cable must be used with the device. The cable is provided to ensure that the device complies with FCC Class A verification. U.S.A. ONLY

WARNING:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WARNING:

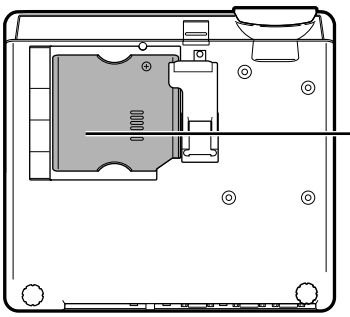
The cooling fan in this projector continues to run for about 90 seconds after the projector enters the standby mode. During normal operation, when putting the projector into standby mode always use the STANDBY button on the projector or on the remote control. Ensure the cooling fan has stopped before disconnecting the power cord.
DURING NORMAL OPERATION, NEVER TURN THE PROJECTOR OFF BY DISCONNECTING THE POWER CORD. FAILURE TO OBSERVE THIS WILL RESULT IN PREMATURE LAMP FAILURE.

PRODUCT DISPOSAL

This projector utilizes tin-lead solder, and a pressurized lamp containing a small amount of mercury. Disposal of these materials may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or, if you are located in the United States of America, the Electronic Industries Alliance: www.eiae.org .

Caution Concerning Lamp Replacement

See “Replacing the Lamp” on page **66**.



⚠ LAMP REPLACEMENT WARNING :
TURN OFF THE LAMP AND DISCONNECT POWER CORD BEFORE OPENING THIS COVER. HOT SURFACE INSIDE.
ALLOW 1 HOUR TO COOL BEFORE REPLACING THE LAMP.
REPLACE WITH SAME SHARP LAMP UNIT MODEL AN-MB70LP ONLY.

HIGH PRESSURE LAMP : RISK OF EXPLOSION. POTENTIAL HAZARD OF GLASS PARTICLES IF LAMP HAS RUPTURED. HANDLE WITH CARE. SEE OPERATION MANUAL.

SERVICEMAN-WARNING : USE RADIATION EYE AND SKIN PROTECTION DURING SERVICING.

⚠ AVERTISSEMENT CONCERNANT LE REMPLACEMENT DE LA LAMPE :
ETEINDRE LA LAMPE ET DEBRANCHER LE CORDON D'ALIMENTATION AVANT D'OUVRIR LE COUVERCLE. L'INTERIEUR DU BOITIER ETANT EXTREMEMENT CHAUD, ATTENDRE 1 HEURE AVANT DE PROCEDER AU REMPLACEMENT DE LA LAMPE. NE REMPLACER QUE PAR UNE LAMPE SHARP DE MODELE AN-MB70LP.

LAMPE A HAUTE PRESSION : RISQUE D'EXPLOSION. DANGER POTENTIEL DE PARTICULES DE VERRE EN CAS D'ECLATEMENT DE LA LAMPE.
A MANIPULER AVEC PRECAUTION.
SE REPORTER AU MODE D'EMPLOI.

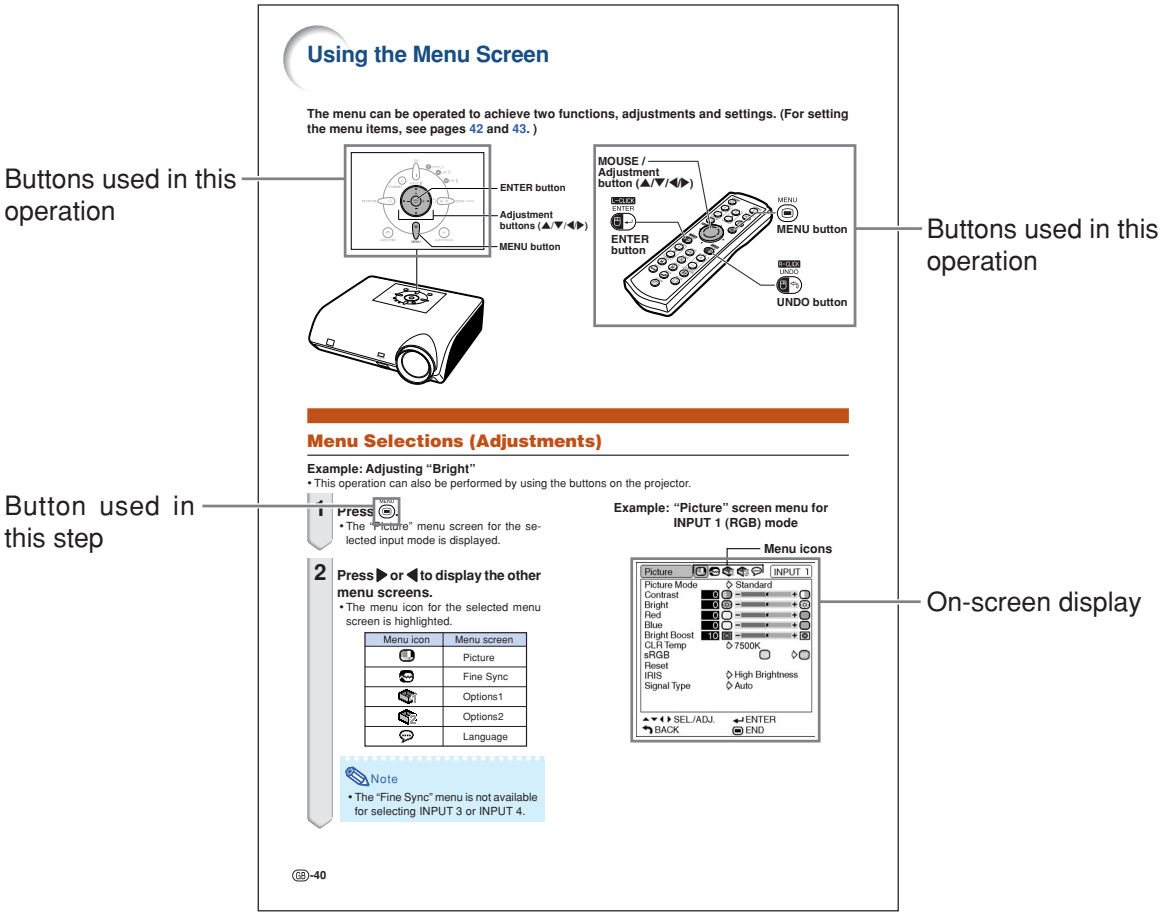
AVERTISSEMENT – REPARATEUR : SE PROTEGER LES YEUX ET LA PEAU DES RADIATIONS LORS DES REPARATIONS.

This SHARP projector uses a DMD panel. This very sophisticated panel contains 786,432 pixels micromirrors. As with any high technology electronic equipment such as large screen TVs, video systems and video cameras, there are certain acceptable tolerances that the equipment must conform to.
This unit has some inactive pixels within acceptable tolerances which may result in inactive dots on the picture screen. This will not affect the picture quality or the life expectancy of the unit.

- DLP™ (Digital Light Processing) and DMD™ (Digital Micromirror Device) are trademarks of Texas Instruments, Inc.
- Microsoft® and Windows® are registered trademarks of Microsoft Corporation in the United States and/or other countries.
- PC/AT is a registered trademark of International Business Machines Corporation in the United States.
- Adobe® Reader® is a trademark of Adobe Systems Incorporated.
- Macintosh® is a registered trademark of Apple Computer, Inc. in the United States and/or other countries.
- All other company or product names are trademarks or registered trademarks of their respective companies.

How to Read this Operation Manual

- **In this operation manual, the illustrations and on-screen displays are simplified for explanation. This may differ from the actual on-screen display.**



Info .....Indicates safeguards when using the projector.

Note .....Indicates additional information for setting up and operating the projector.

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IMPORTANT SAFEGUARDS

CAUTION: Please read all of these instructions before you operate this product and save these instructions for later use.

Electrical energy can perform many useful functions. This product has been engineered and manufactured to assure your personal safety. BUT IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated in this product, observe the following basic rules for its installation, use and servicing.

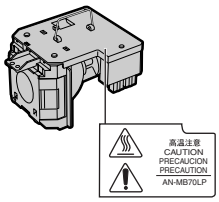
1. **Read Instructions**
   All the safety and operating instructions should be read before the product is operated.
2. **Retain Instructions**
   The safety and operating instructions should be retained for future reference.
3. **Heed Warnings**
   All warnings on the product and in the operating instructions should be adhered to.
4. **Follow Instructions**
   All operating and use instructions should be followed.
5. **Cleaning**
   Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments**
   Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. **Water and Moisture**
   Do not use this product near water–for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
8. **Accessories**
   Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
9. **Transportation**
   A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

10. **Ventilation**
    Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. **Power Sources**
    This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
12. **Grounding or Polarization**
    This product is provided with one of the following types of plugs. If the plug should fail to fit into the power outlet, please contact your electrician.
    Do not defeat the safety purpose of the plug.
    a. Two-wire type (mains) plug.
    b. Three-wire grounding type (mains) plug with a grounding terminal.
       This plug will only fit into a grounding type power outlet.
13. **Power-Cord Protection**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
14. **Lightning**
    For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power-line surges.
15. **Overloading**
    Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
16. **Object and Liquid Entry**
    Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
17. **Servicing**
    Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
18. **Damage Requiring Service**
    Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    e. If the product has been dropped or damaged in any way.
    f. When the product exhibits a distinct change in performance, this indicates a need for service.
19. **Replacement Parts**
    When replacement parts are required, ensure that the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. **Safety Check**
    Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
21. **Wall or Ceiling Mounting**
    This product should be mounted to a wall or ceiling only as recommended by the manufacturer.
22. **Heat**
    This product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Ensure that you read the following safeguards when setting up your projector.

Caution concerning the lamp unit

■ Potential hazard of glass particles if lamp ruptures. In case of lamp rupture, contact your nearest Sharp Authorized Projector Dealer or Service Center for a replacement. See “Replacing the Lamp” on page 66.



Caution concerning the setup of the projector

■ For minimal servicing and to maintain high image quality, SHARP recommends that this projector be installed in an area free from humidity, dust and cigarette smoke. When the projector is subjected to these environments, the vents and lens must be cleaned more often. As long as the projector is regularly cleaned, use in these environments will not reduce the overall operation life of the unit. Internal cleaning should only be performed by a Sharp Authorized Projector Dealer or Service Center.

Do not set up the projector in places exposed to direct sunlight or bright light.

■ Position the screen so that it is not in direct sunlight or room light. Light falling directly on the screen washes out the colors, making viewing difficult. Close the curtains and dim the lights when setting up the screen in a sunny or bright room.

The projector may be safely tilted to a maximum angle of 12 degrees.

■ Placement should be within ±12 degrees of horizontal.

Do not use the projector upside down.

■ This can cause personal injury due to rise in internal temperature.

Warning about placing the projector in a high position

■ When placing the projector in a high position, ensure to secure it carefully to avoid personal injury caused by the projector falling down.

Do not subject the projector to hard impact and/or vibration.

■ Take care with the lens so as not to hit or damage the surface of the lens.

Rest your eyes occasionally.

■ Continuously watching the screen for long hours will cause eye strain. Ensure to occasionally rest your eyes.

Avoid locations with extremes of temperature.

■ The operating temperature of the projector is from 41°F to 104°F (+5°C to +40°C).

■ The storage temperature of the projector is from –4°F to 140°F (–20°C to +60°C).

Do not block the exhaust and intake vents.

■ Allow at least 7 7/8 inches (20 cm) of space between the exhaust vent and the nearest wall or obstruction.

■ Ensure that the intake vent and the exhaust vent are not obstructed.

■ If the cooling fan becomes obstructed, a protection circuit will automatically put the projector into standby mode to prevent overheat damage. This does not indicate a malfunction (See pages 64 and 65.). Remove the projector power cord from the wall outlet and wait at least 10 minutes. Place the projector where the intake and exhaust vents are not blocked, plug the power cord back in and turn on the projector. This will return the projector to the normal operating condition.

Caution regarding usage of the projector

- When using the projector, ensure not to subject it to hard impact and/or vibration, as this can result in damage. Take extra care with the lens. If you are not to use the projector for a long time, be sure to unplug the power cord from the wall outlet, and disconnect any other cables connected to it.
- Do not use the projector by holding the lens.
- When storing the projector, ensure to attach the lens cap to the projector. (See page **11**.)
- Do not expose the storage case or projector to direct sunlight or near heat sources. The storage case or projector may change color or become deformed.

Other connected equipment

- When connecting a computer or other audio-visual equipment to the projector, make the connections AFTER unplugging the power cord of the projector from the AC outlet and turning off the equipment to be connected.
- Please read the operation manuals of the projector and the equipment to be connected for instructions on how to make the connections.

Using the projector in other countries

- The power supply voltage and the shape of the plug may vary depending on the region or country you are using the projector in. When using the projector overseas, ensure to use an appropriate power cord for the country you are in.

Temperature monitor function

- If the projector starts to overheat due to setup problems or blockage of the air vents, " " and "TEMP." will illuminate in the lower left corner of the picture. If the temperature continues to rise, the lamp will turn off, the temperature warning indicator on the projector will blink, and after a 90-second cooling-off period the projector will enter the standby mode. Refer to "Maintenance Indicators" on page **64** for details.

Info

- The cooling fan regulates the internal temperature, and its performance is automatically controlled. The sound of the fan may change during projector operation due to changes in the fan speed. This does not indicate malfunction.
- Do not unplug the power cord during projection or cooling fan operation. This can cause damage due to rise in internal temperature, as the cooling fan also stops.

How to Access the PDF Operation Manuals

PDF operation manuals in several languages are included in the CD-ROM, so that you can work with the projector. To utilize these manuals, you need to install Adobe® Reader® on your computer (Windows® or Macintosh®).

Please download Adobe® Reader® from the Internet (http://www.adobe.com).

Accessing the PDF Manuals

For Windows®:

① Insert the CD-ROM in the CD-ROM drive.
② Double click the “My Computer” icon.
③ Double click the “CD-ROM” drive.
④ **When you want to view the operation manual**
1) Double click the “MANUALS” folder.
2) Double click the language (name of the folder) that you want to view.
3) Double click the “MB70” pdf file to access the projector manuals.

When you want to view the setup guide
1) Double click the “SETUP” folder.
2) Double click the language (name of the folder) that you want to view.
3) Double click the “SE_MB7” pdf file to access the setup guide.

For Macintosh®:

① Insert the CD-ROM in the CD-ROM drive.
② Double click the “CD-ROM” icon.
③ **When you want to view the operation manual**
1) Double click the “MANUALS” folder.
2) Double click the language (name of the folder) that you want to view.
3) Double click the “MB70” pdf file to access the projector manuals.

When you want to view the setup guide
1) Double click the “SETUP” folder.
2) Double click the language (name of the folder) that you want to view.
3) Double click the “SE_MB7” pdf file to access the setup guide.

Info

• If the desired pdf file cannot be opened by double clicking the mouse, start Adobe® Reader® first, then specify the desired file using the “File”, “Open” menu.

SETUP GUIDE

Refer to the “SETUP GUIDE” contained on the supplied CD-ROM for details.

Screen Size and Projection Distance 2
Connecting Pin Assignments 3
RS-232C Specifications and Commands 4
Setting up the Projector Network Environment 6
Controlling the Projecter via LAN 12
Setting the Projector Using RS-232C or Telnet 17
Controlling the Projector Using RS-232C or Telnet 20
Troubleshooting 27
Dimensions 30

Accessories

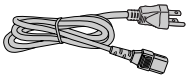
Supplied accessories

Remote control
RRMCGA313WJSA

Two R-03 batteries
("AAA" size, UM/SUM-4, HP-16 or similar)

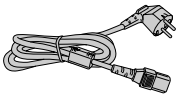
Power cord*

(1)



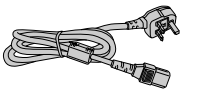
For U.S., Canada, etc.
(6' (1.8 m))
QACCDA010WJPZ

(2)



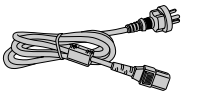
For Europe, except U.K.
(6' (1.8 m))
QACCVA011WJPZ

(3)



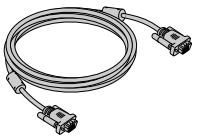
For U.K., Hong Kong and Singapore
(6' (1.8 m))
QACCBA036WJPZ

(4)

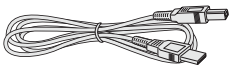


For Australia, New Zealand and Oceania
(6' (1.8 m))
QACCLA018WJPZ

*Use the power cord that corresponds to the wall outlet in your country.

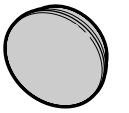


RGB cable
(9'10" (3.0 m))
QCNWGA045WJPZ



USB cable
(9'10" (3.0 m))
QCNWGA014WJPZ

Storage case
GCASNA014WJSA



Lens cap (attached)
RCAPHA021WJSA

Projector manual and technical reference CD-ROM
UDSKAA052WJZZ

"QUICK GUIDE" label
TLABZA717WJZZ

Operation manual (this manual)
TINS-B416WJZZ

Optional accessories

■ 3 RCA to 15-pin D-sub cable (9'10" (3.0 m))	AN-C3CP
■ DIN-D-sub RS-232C adaptor (5 $^{57}/_{64}$" (15 cm))	AN-A1RS
■ Lamp unit	AN-MB70LP

Note

- Some of the optional accessories may not be available depending on the region. Please check with your nearest Sharp Authorized Projector Dealer or Service Center.

Part Names and Functions

Numbers in refer to the main pages in this operation manual where the topic is explained.

Projector

Top View

ON button 29
For turning the power on.

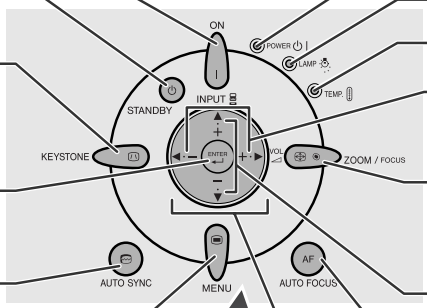
STANDBY button 29
For putting the projector into standby mode.

KEYSTONE button 31
For entering the Keystone Correction mode.

ENTER button 40
For setting items selected or adjusted on the menu.

AUTO SYNC button 49
For automatically adjusting images when connected to a computer.

MENU button 40
For displaying adjustment and setting screens.



12 **Power indicator**

12·64 **Lamp indicator**

12·64 **Temperature warning indicator**

33 **Volume buttons**
For adjusting the speaker sound level.

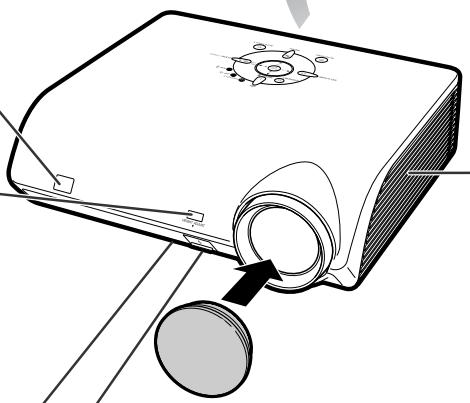
32 **ZOOM/FOCUS button**
For adjusting the projected image size or adjusting the focus.

33 **INPUT buttons**
For switching input mode 1, 2, 3 or 4.

32 **AUTO FOCUS button**
For adjusting the focus automatically.

40 **Adjustment buttons (▲/▼/◀/▶)**
For selecting menu items and other settings.

Front View



Remote control sensor 15

Auto focus sensor
Auto focus may not function normally if there is an obstruction between the auto focus sensor and the screen, or if there is dirt or dust on the auto focus sensor. Remove any obstructions, dirt or dust.

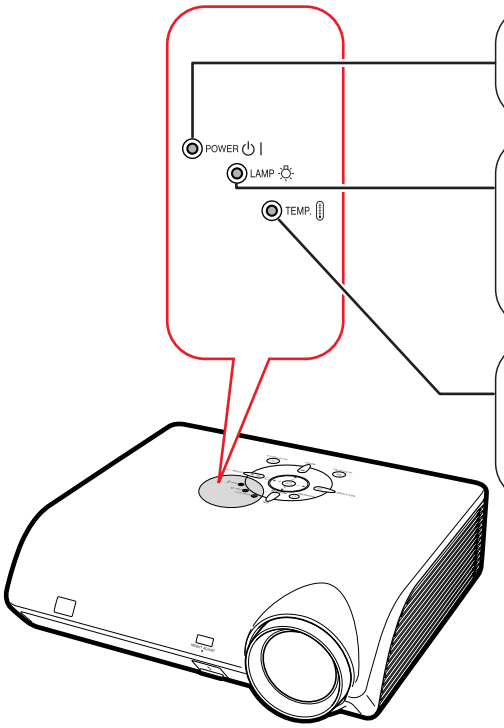
Front adjustment foot (on the bottom of the projector) 30

HEIGHT ADJUST button 30

58 **Speaker**

- **Attaching the lens cap**
  Push the lens cap on until it clicks into position.
- **Removing the lens cap**
  Pull the lens cap directly outward.

About the Indicators on the Projector



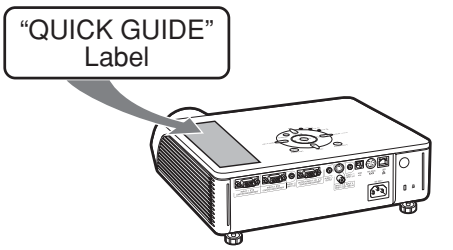
Power indicator
Red on ··· Normal (Standby)
Green on ··· Normal (Power on)

Lamp indicator
Green on ··· Normal
Green blinks ··· The lamp is warming up or shutting down.
Red on ··· The lamp has been shut down abnormally or needs to be changed. (See page **64**.)

Temperature warning indicator
Off ··· Normal
Red on ··· The internal temperature is abnormally high. (See page **64**.)

When Attaching the "QUICK GUIDE" Label

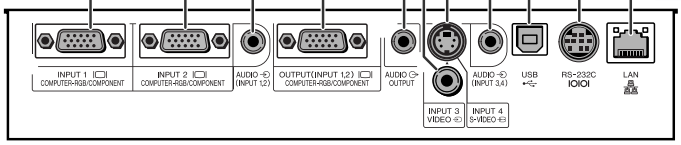
Attaching the "QUICK GUIDE" Label (supplied) on the projector will help you check the setup procedure. Ensure to attach the "QUICK GUIDE" Label on the top cabinet of the projector as shown in the drawing on the right. Do not attach the "QUICK GUIDE" label anywhere else to avoid blocking an air intake or exhaust vent.



Numbers in [ ] refer to the main pages in this operation manual where the topic is explained.

Projector (Rear View)

Terminals **Refer to "INPUT/OUTPUT Terminals and Connectable Main Equipment" on page 21.**



AUDIO OUTPUT terminal 28
Audio output terminal of equipment connected to the AUDIO INPUT terminal.

OUTPUT (INPUT 1, 2) terminal 28
- Shared computer RGB and component signals output terminal for INPUT 1 and 2.
- Terminal for connecting a monitor.

AUDIO INPUT 1, 2 terminal 23·25
Shared audio input terminal for INPUT 1 and 2.

INPUT 2 terminal 23·25
Terminal for computer RGB and component signals.

INPUT 1 terminal 23·25
Terminal for computer RGB and component signals.

INPUT 3 terminal 26
Terminal for connecting video equipment.

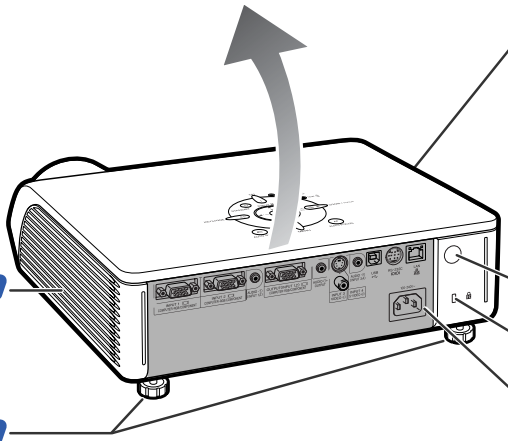
INPUT 4 terminal 26
Terminal for connecting video equipment with an S-video terminal.

AUDIO INPUT 3, 4 terminal 26
Shared audio input terminal for INPUT 3 and 4.

USB terminal 23

RS-232C terminal 27
Terminal for controlling the projector using a computer.

LAN terminal 27
Terminal for controlling the projector using a computer via network.



Exhaust vent 63
The speed and pitch of the cooling fan may change during operation in response to internal temperature changes. This is normal operation and does not indicate a malfunction.

Intake vent 63

Remote control sensor 15

Kensington Security Standard connector 13

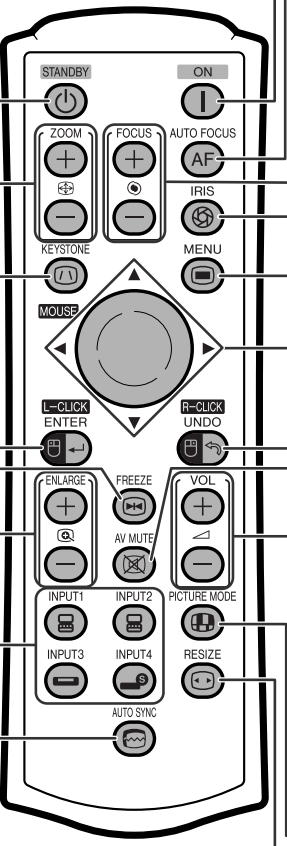
AC socket 29
Connect the supplied Power cord.

Rear adjustment feet 30

Using the Kensington Lock
- This projector has a Kensington Security Standard connector for use with a Kensington MicroSaver Security System. Refer to the information that came with the system for instructions on how to use it to secure the projector.

Numbers in refer to the main pages in this operation manual where the topic is explained.

Remote Control



STANDBY button 29
For putting the projector into standby mode.

ZOOM buttons 32
For adjusting the projected image size.

KEYSTONE button 31
For entering the Keystone Correction mode.

L-CLICK/ENTER button 24·40
- For the Left click when connecting the projector USB terminal to the computer with USB cable.
- For setting items selected or adjusted on the menu.

FREEZE button 35
For freezing images.

ENLARGE (Enlarge/Reduce) buttons 34
For enlarging/reducing part of the image.

INPUT 1, 2, 3 and 4 buttons 33
For switching to the respective input modes.

AUTO SYNC button 49
For automatically adjusting images when connected to a computer.

29 ON button
For turning the power on.

32 AUTO FOCUS button
For adjusting the focus automatically.

32 FOCUS buttons
For bringing the projected image into focus.

35 IRIS button
For switching "High Brightness" mode or "High Contrast" mode.

40 MENU button
For displaying adjustment and setting screens.

24·40 MOUSE/Adjustment button (▲/▼/◀/▶)
- For moving the computer cursor when connecting the projector USB terminal to the computer with USB cable.
- For selecting menu items.

24·40 R-CLICK/UNDO button
- For the Right click when connecting the projector USB terminal to the computer with USB cable.
- For undoing an operation or returning to the previous display.

34 AV MUTE button
For temporarily displaying the black screen and turning off the sound.

33 Volume buttons
For adjusting the speaker sound level.

35 PICTURE MODE button
For switching the picture mode.

36 RESIZE button
For switching the screen size (NORMAL, BORDER, etc.).

Note

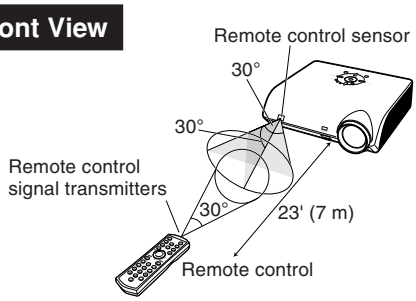
- All the buttons on the remote control, except the MOUSE/Adjustment button, are made of luminous material that is visible in the dark. Visibility will diminish over time. Exposure to light will recharge the luminous buttons.

Using the Remote Control

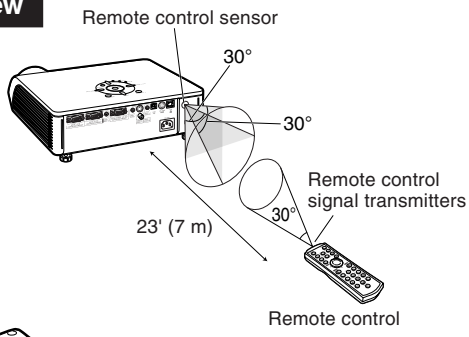
Usable Range

The remote control can be used to control the projector within the ranges shown in the illustration.

Front View



Rear View



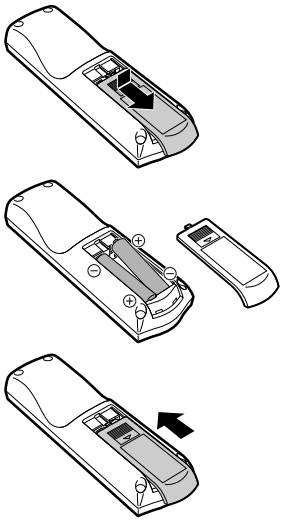
> **Note**
> • The signal from the remote control can be reflected off a screen for easy operation. However, the effective distance of the signal may differ depending on the screen material.

When using the remote control:

- Ensure not to drop, expose to moisture or high temperature.
- The remote control may malfunction under a fluorescent lamp. In this case, move the projector away from the fluorescent lamp.

Inserting the Batteries

The batteries (two R-03 batteries ("AAA" size, UM/SUM-4, HP-16 or similar)) are supplied in the package.



1 Press the ▲ mark on the cover and slide it in the direction of the arrow.

2 Insert the batteries.

- Insert the batteries making sure the polarities correctly match the ⊕ and ⊖ marks inside the battery compartment.

3 Attach the cover and slide it until it clicks into place.

Incorrect use of the batteries may cause them to leak or explode. Please follow the precautions below.

⚠ Caution

- Insert the batteries making sure the polarities correctly match the ⊕ and ⊖ marks inside the battery compartment.
- Batteries of different types have different properties, therefore do not mix batteries of different types.
- Do not mix new and old batteries.
  This may shorten the life of new batteries or may cause old batteries to leak.
- Remove the batteries from the remote control once they have run out, as leaving them in can cause them to leak. Battery fluid from leaked batteries is harmful to skin, therefore ensure to first wipe them and then remove them using a cloth.

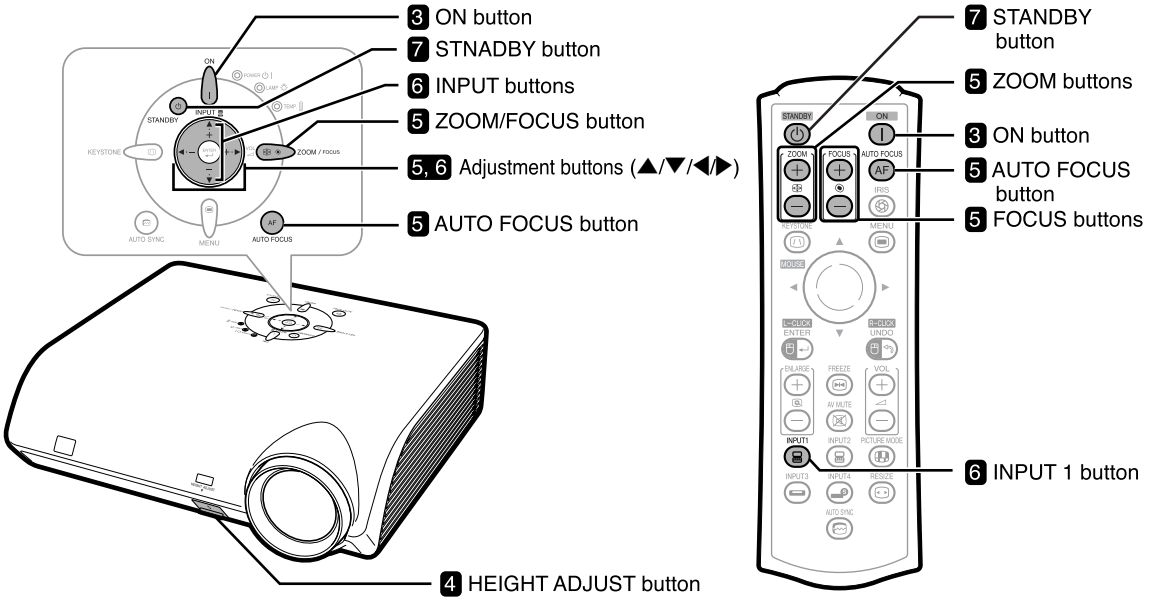
- The batteries included with this projector may run down in a short period, depending on how they are kept. Ensure to replace them as soon as possible with new batteries.
- Remove the batteries from the remote control if you will not be using the remote control for a long time.

Quick Start

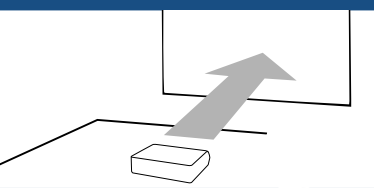
This section shows the basic operation (projector connecting with the computer). For details, see the page described below for each step.

Setup and Projection

In this section, connection of the projector and the computer is explained using one example.

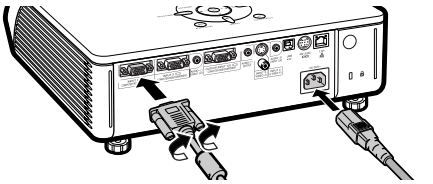


1. Place the projector facing a screen



➡ Page 19

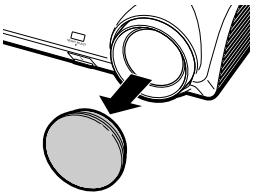
2. Connect the projector to the computer and plug the power cord into the AC socket of the projector



When connecting equipment other than the computer, see pages 25 and 26.

➡ Pages 23, 29

3. Remove the lens cap and turn the projector on



On the projector

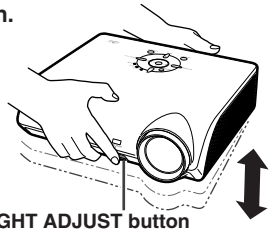
On the remote control

➡ Page 29

4. Adjust the angle

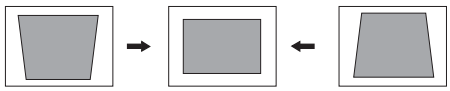
Adjust the projector angle

- Adjust the projector angle using the HEIGHT ADJUST button.



HEIGHT ADJUST button

- This projector is equipped with an "Auto Keystone Correction" function that automatically corrects any trapezoidal distortion within the projected image. The correction is made automatically provided the vertical incline or decline is within 12 degrees.

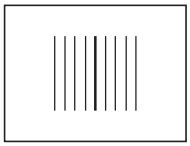


➡ Page 30

5. Adjust the focus and the zoom

① Bring the projected image into focus

- When the projector is turned on, the focus function automatically displays a focus pattern and performs Auto Focus once.



- To perform Auto Focus again, press the AUTO FOCUS button.

On the projector

On the remote control

- The focus pattern is displayed, the focus is automatically adjusted, and then the focus pattern disappears.

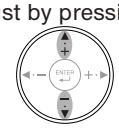
② Adjust the projected image size

- Adjust the projected image size by adjusting zoom.

On the projector

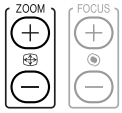
① Press ZOOM / FOCUS.

② Adjust by pressing ▲ or ▼.



On the remote control

Adjust by pressing the ZOOM buttons.

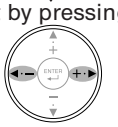


- If the image is out of focus or you want to finely adjust the focus, adjust the focus manually.

On the projector

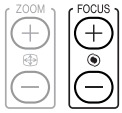
① Press ZOOM / FOCUS.

② Adjust by pressing ◀ or ▶.



On the remote control

Adjust by pressing the FOCUS buttons.

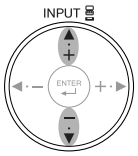


➡ Page 32

6. Select the INPUT mode

Select the "INPUT 1" using the INPUT buttons on the projector or the INPUT 1 button on the remote control.

On the projector



On the remote control

▼ On-screen Display (RGB)

- When pressing ▲/▼ on the projector, input mode switches in order of :

INPUT 1↔INPUT 2↔INPUT 3↔INPUT 4

- When using the remote control, press INPUT1/INPUT2/INPUT3/INPUT4 to switch the INPUT mode.

➡ Page 33

7. Turn the Power off

Press the STANDBY button, then press that button again while the confirmation message is displayed, to put the projector into standby mode.

On the projector

On the remote control

▼ On-screen Display

- Unplug the power cord from the AC outlet after the cooling fan stops.

➡ Page 29

Storing the Projector

How to Use the Storage Case

When storing the projector, attach the lens cap to the lens, and place it in the supplied storage case.

1 **Open the cover of the storage case.**

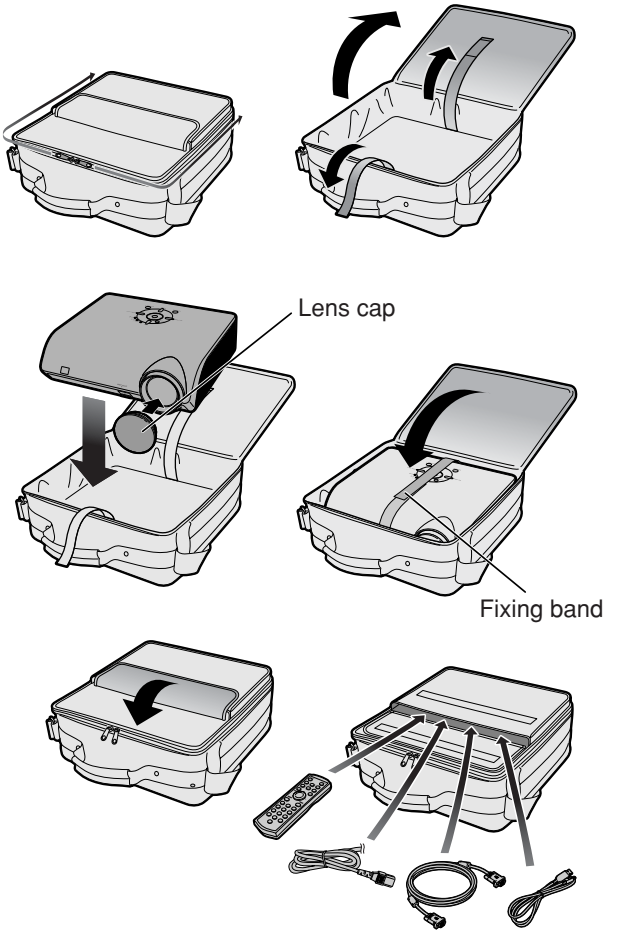
2 **Place the projector into the storage case.**

> **Info**
>
> • Ensure the projector has cooled down sufficiently before placing it in the case.
> • Ensure the lens cap is attached to the lens for protection.
> • **Place the projector into the storage case with the lens facing the handle.**
> • Ensure the projector is held in place by using the fixing band.

3 **Close the cover of the storage case.**

4 **Place the accessories in the front pocket of the storage case.**

> **Info**
>
> • This storage case is only for storing the projector.



Setting up the Projector

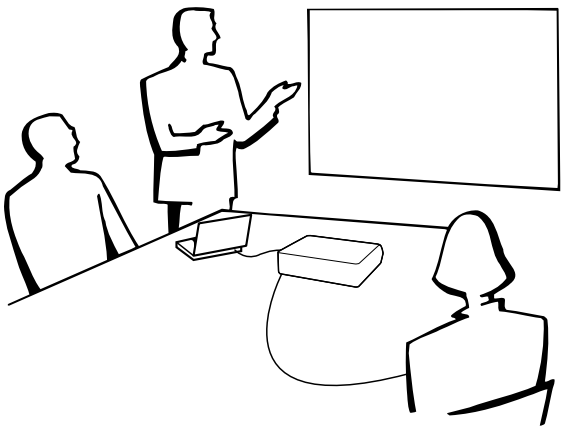
Position the projector perpendicular to the screen with the projector's feet flat and level to achieve an optimal image.

Note

- The projector lens should be centered in the middle of the screen. If the horizontal line passing through the lens center is not perpendicular to the screen, the image will be distorted, making viewing difficult.
- For an optimal image, position the screen so that it is not in direct sunlight or room light. Light falling directly on the screen washes out the colors, making viewing difficult. Close the curtains and dim the lights when setting up the projector in a sunny or bright room.

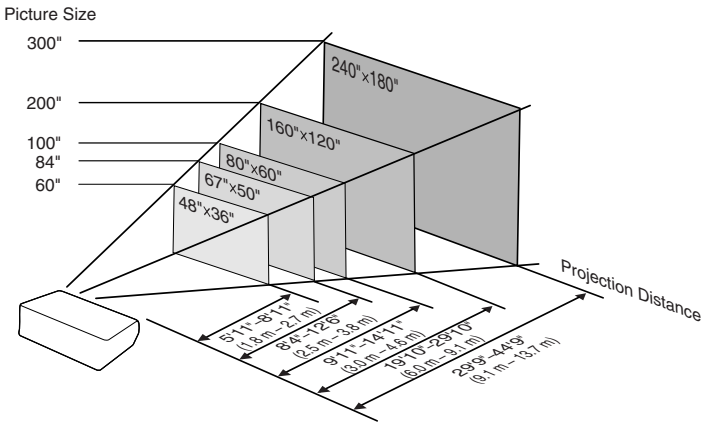
Standard Setup (Front Projection)

■ Place the projector at the required distance from the screen according to the desired picture size. (For details, refer to page 2 of the "SETUP GUIDE" contained on the supplied CD-ROM.)



Indication of the Projection Image Size and Projection Distance

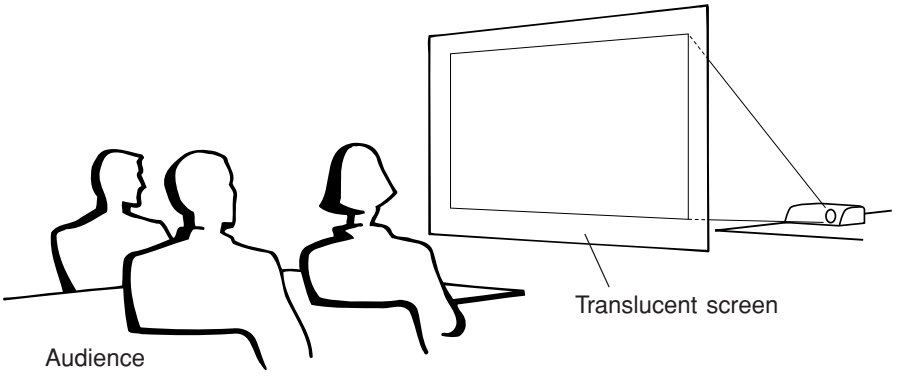
For details, refer to page 2 of the "SETUP GUIDE" contained on the supplied CD-ROM.
Example : NORMAL Mode (4:3)



Projecting a Reversed Image

Projection from behind the Screen

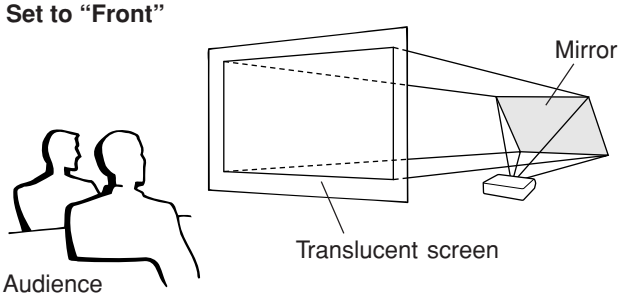
- Place a translucent screen between the projector and the audience.
- Reverse the image by setting “Rear” in the “PRJ Mode” menu. (See page 59.)



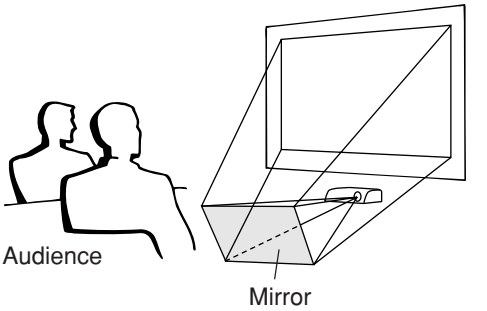
Projection Using a Mirror

- Place a mirror (normal flat type) in front of the lens.
- When the translucent screen is placed between the mirror and audience, set to “Front” in the “PRJ Mode” menu. (See page 59.)
- When the mirror is placed on the audience side, set to “Rear” in the “PRJ Mode” menu. (See page 59.)

Set to “Front”



Set to “Rear”

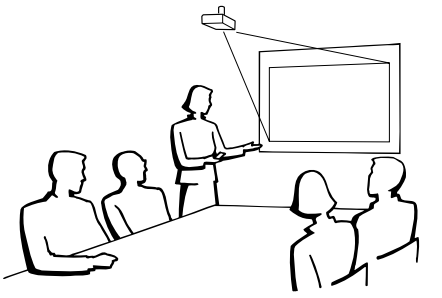


Info

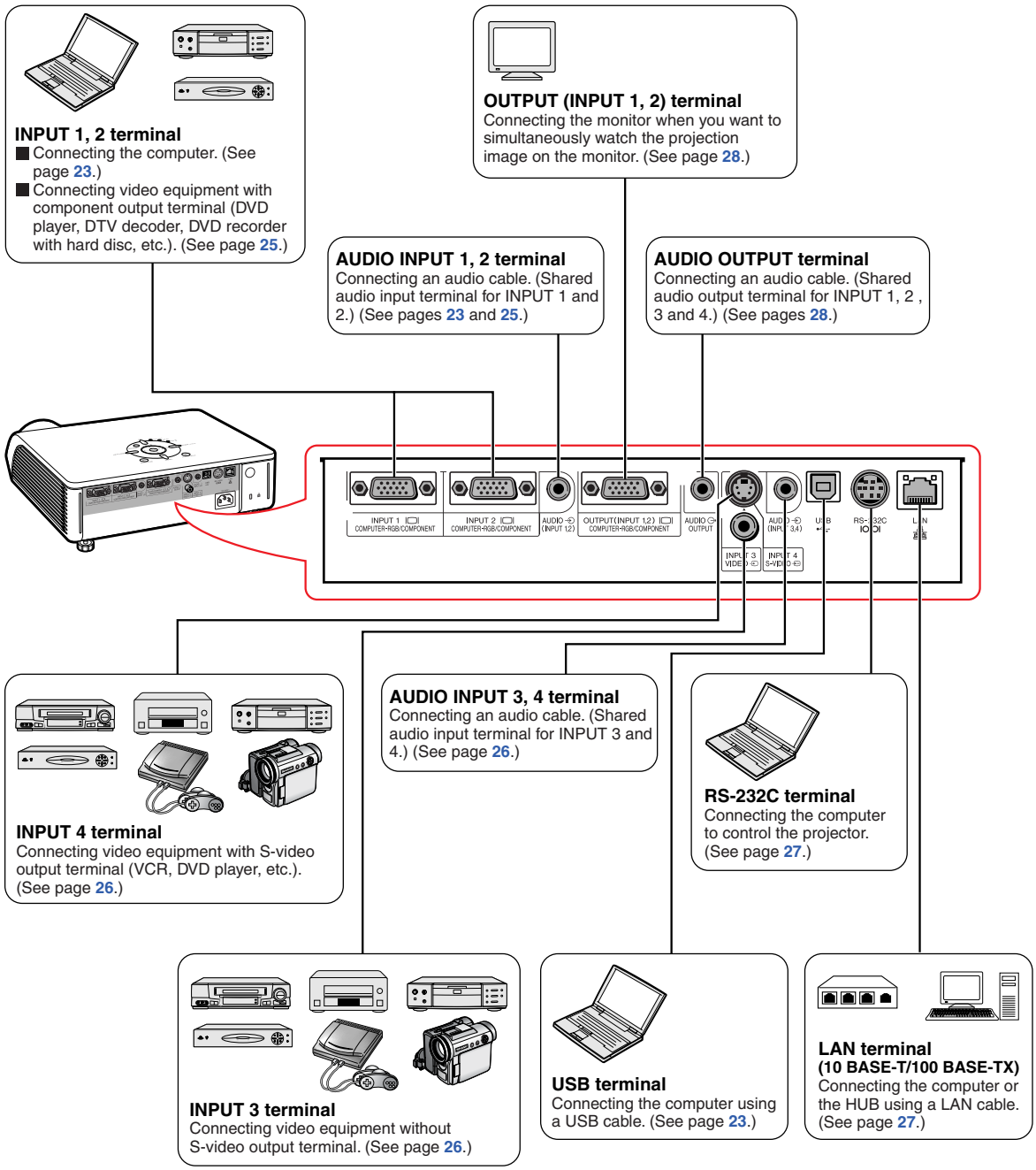
- When using a mirror, ensure that both the projector and the mirror are carefully placed so the projected light does not shine into the eyes of the audience.

Ceiling-mount Setup

- It is recommended that you use the optional Sharp ceiling-mount bracket for this installation.
  Before mounting the projector, contact your nearest Sharp Authorized Projector Dealer or Service Center to obtain the recommended ceiling-mount bracket (sold separately).
  - AN-MBCM10 ceiling-mount bracket, its AN-EP101B extension tube and AN-JT200 universal bracket, adaptor for non-level ceiling installation (for U.S.A.).
  - AN-60KT ceiling-mount bracket, its AN-TK201 and AN-TK202 extension tubes (for countries other than the U.S.A.).
- Invert the image by setting “Ceiling + Front” in “PRJ Mode”. See page 59 for use of this function.

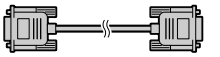
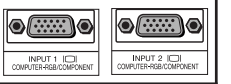
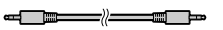
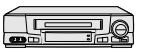
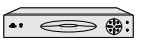
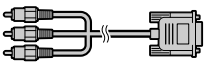
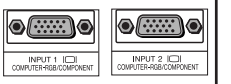
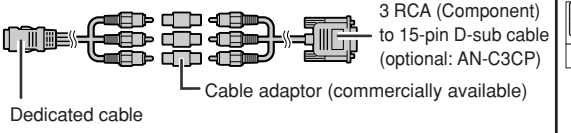
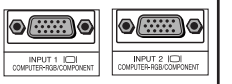
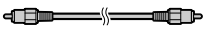
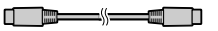
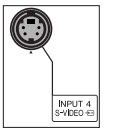
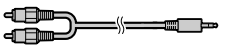
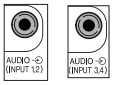
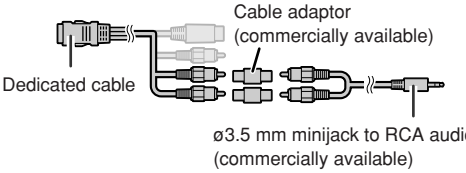
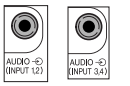
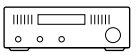
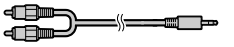
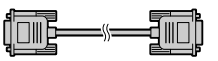
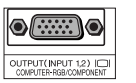


INPUT/OUTPUT Terminals and Connectable Main Equipment


INPUT 1, 2 terminal
■ Connecting the computer. (See page 23.)
■ Connecting video equipment with component output terminal (DVD player, DTV decoder, DVD recorder with hard disc, etc.). (See page 25.)
OUTPUT (INPUT 1, 2) terminal
Connecting the monitor when you want to simultaneously watch the projection image on the monitor. (See page 28.)
AUDIO INPUT 1, 2 terminal
Connecting an audio cable. (Shared audio input terminal for INPUT 1 and 2.) (See pages 23 and 25.)
AUDIO OUTPUT terminal
Connecting an audio cable. (Shared audio output terminal for INPUT 1, 2 , 3 and 4.) (See pages 28.)
INPUT 1 COMPUTER-RGB/COMPONENT
INPUT 2 COMPUTER-RGB/COMPONENT
AUDIO (INPUT 1,2)
OUTPUT(INPUT 1,2) COMPUTER-RGB/COMPONENT
AUDIO OUTPUT
INPUT 3 VIDEO
INPUT 4 S-VIDEO
USB
RS-232C
LAN
AUDIO INPUT 3, 4 terminal
Connecting an audio cable. (Shared audio input terminal for INPUT 3 and 4.) (See page 26.)
INPUT 4 terminal
Connecting video equipment with S-video output terminal (VCR, DVD player, etc.). (See page 26.)
RS-232C terminal
Connecting the computer to control the projector. (See page 27.)
INPUT 3 terminal
Connecting video equipment without S-video output terminal. (See page 26.)
USB terminal
Connecting the computer using a USB cable. (See page 23.)
LAN terminal
(10 BASE-T/100 BASE-TX)
Connecting the computer or the HUB using a LAN cable. (See page 27.)

Samples of Cables for Connection

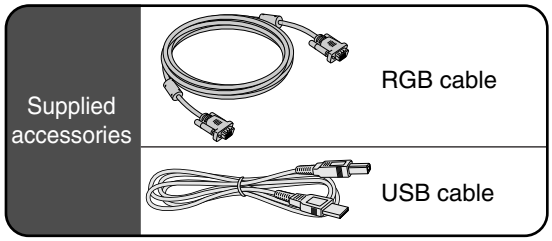
- For more details of connection and cables, refer to the opeation manual of the connecting equipment.
- You may need other cables or connectors not listed below.

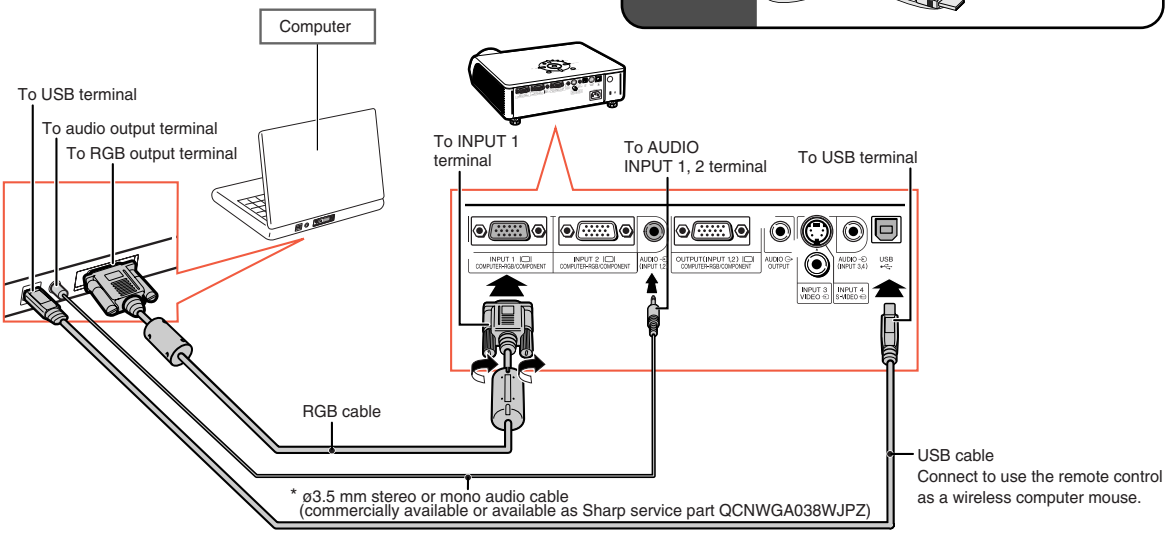
Equipment	Terminal on connected equipment	Cable	Terminal on the projector
Computer	**RGB output terminal**	**RGB cable (supplied)** 	**INPUT 1, 2** 
	Audio output terminal	**ø3.5 mm stereo audio cable (commercially available)** 	**AUDIO INPUT**
Audio-visual equipment  	**Component video output terminal**	**3 RCA (Component) to 15-pin D-sub cable (optional: AN-C3CP)** 	**INPUT 1, 2** 
	Terminal for using the dedicated cable	**Connect with the cable adaptor, etc.** 	**INPUT 1, 2** 
	Video output terminal	**Video cable (commercially available)** 	**INPUT3**
	S-video output terminal	**S-video cable (commercially available)** 	**INPUT4** 
	Audio output terminal	**ø3.5 mm minijack to RCA audio cable (commercially available)** 	**AUDIO INPUT** 
	Terminal for using the dedicated cable	**Connect with the cable adaptor, etc.** 	**AUDIO INPUT** 
Amplifier 	**Audio input terminal**	**ø3.5 mm minijack to RCA audio cable (commercially available)** 	**AUDIO OUTPUT**
Monitor	**RGB input terminal**	**RGB cable (commercially available)** 	**OUTPUT** 

Connecting to a Computer

Before connecting, ensure the power cord of the projector from the AC outlet is unplugged, and that the devices to be connected are turned off. After making all connections, turn on the projector and then the other devices. When connecting a computer, ensure that it is the last device to be turned on after all the connections are made.

Ensure the operation manuals of the devices to be connected have been read before making connections.




Computer
To USB terminal
To audio output terminal
To RGB output terminal
To INPUT 1 terminal
To AUDIO INPUT 1, 2 terminal
To USB terminal
RGB cable
* ø3.5 mm stereo or mono audio cable (commercially available or available as Sharp service part QCNWGA038WJPZ)
USB cable
Connect to use the remote control as a wireless computer mouse.

* When using the ø3.5 mm mono audio cable, the volume level will be half of when using the ø3.5 mm stereo audio cable.

Note

- When connecting with USB cable, you can use the remote control as a mouse for controlling the cursor. See page **24**.
- See page **69** "Computer Compatibility Chart" for a list of computer signals compatible with the projector. Use with computer signals other than those listed may cause some of the functions to not work.
- A Macintosh adaptor may be required for use with some Macintosh computers. Contact your nearest Macintosh Dealer.
- **Depending on the computer you are using, an image may not be projected unless the signal output setting of the computer is switched to the external output.** Refer to the computer operation manual for switching the computer signal output settings.

"Plug and Play" function (when connecting to a 15-pin terminal)

■ This projector is compatible with VESA-standard DDC 1/DDC 2B. The projector and a VESA DDC compatible computer will communicate their setting requirements, allowing for quick and easy setup.

■ Before using the "Plug and Play" function, **be sure to turn on the projector first and the connected computer last.**

Note

- The DDC "Plug and Play" function of this projector operates only when used in conjunction with a VESA DDC compatible computer.

Using the Remote Control as the Wireless Computer Mouse

When connecting the projector and the computer with the supplied RGB cable and USB cable (see page 23), you can use the remote control as the computer mouse.

The mouse pointer can be operated in the following way after it is connected.

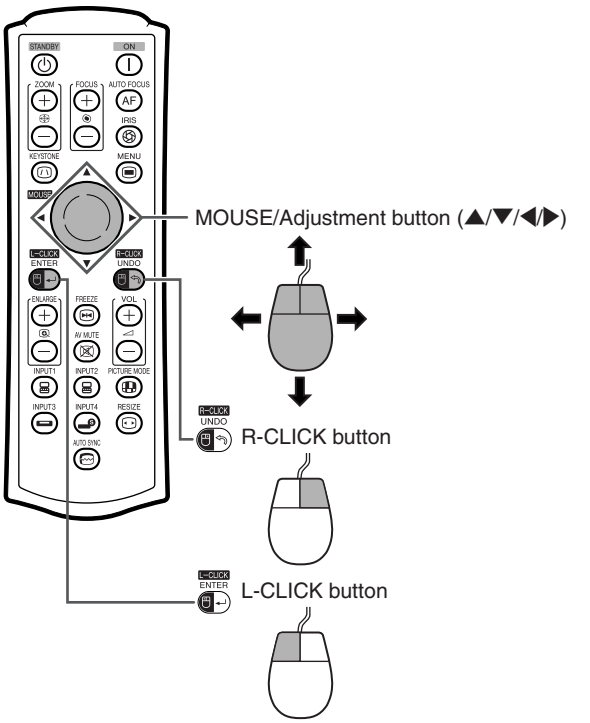
■ **When moving the cursor**
Press MOUSE/Adjustment button (▲/▼/◀/▶).

■ **When left-clicking**
Press L-CLICK ENTER.

■ **When right-clicking**
Press R-CLICK UNDO.

■ **When your computer supports only a one-click mouse (such as Macintosh)**
Press L-CLICK ENTER or R-CLICK UNDO.

L-CLICK ENTER L-CLICK and R-CLICK UNDO R-CLICK have common function.



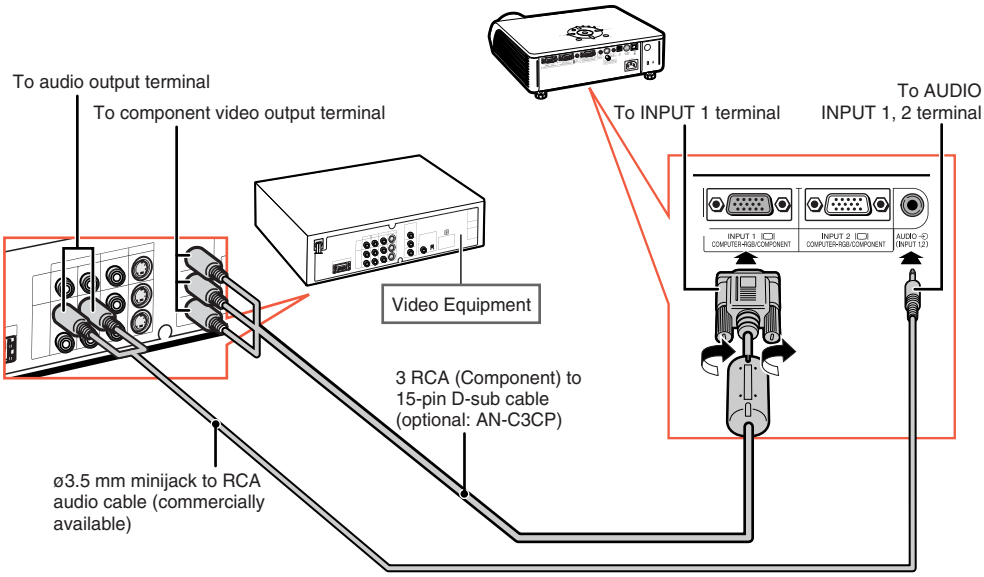
Note

- You cannot use this function when displaying the menu screen.
- Confirm that the computer recognizes the USB connection.
- If “Resize” is displayed when signals having a higher resolution than XGA are being input and you have set “Dot By Dot” as the screen size, you cannot operate the mouse function.

Connecting to Video Equipment

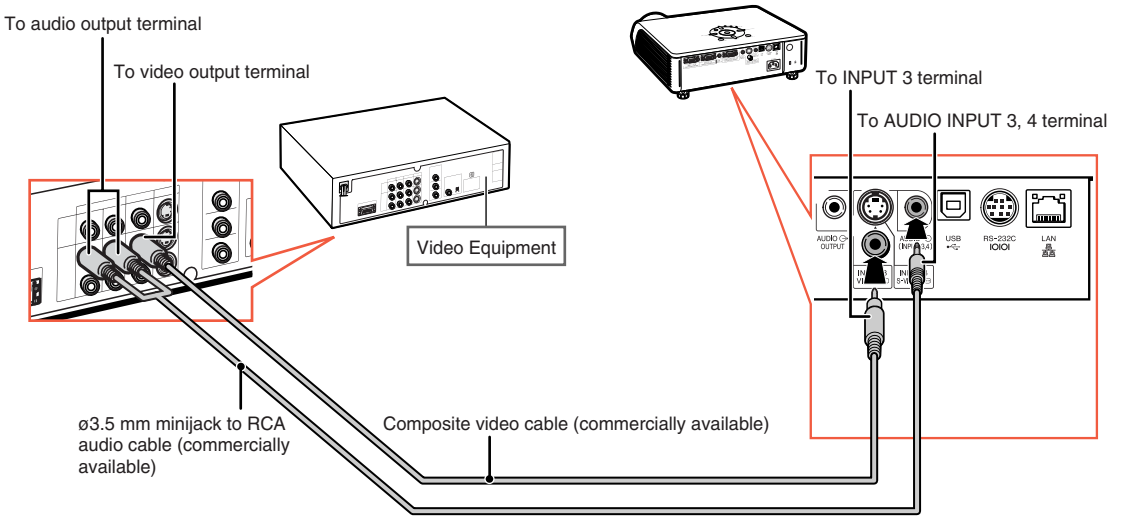
The projector has a COMPUTER/COMPONENT terminal, an S-VIDEO terminal and a VIDEO terminal for video input. See the illustration below to connect with the audio-visual equipment.
The image quality is highest in order of the component signal, the S-video signal and the video signal. If your audio-visual equipment has a component output terminal, use the COMPUTER-RGB/COMPONENT terminal (INPUT 1 or INPUT 2) on the projector for video connection.

When connecting video equipment with component video output terminal
(When connecting to INPUT 1)

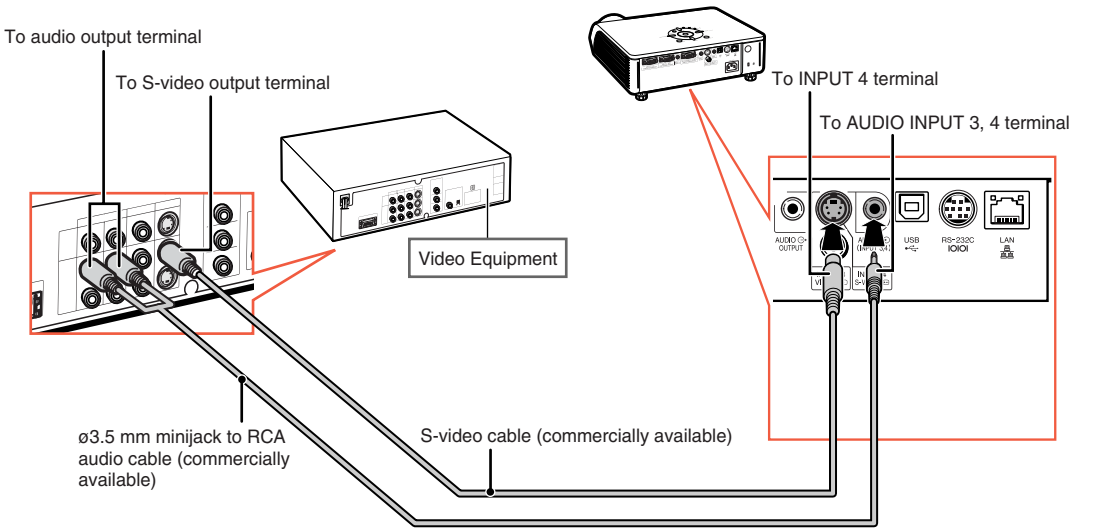


Note
• ø3.5 mm minijack to RCA audio cable (commercially available) is required for audio input.

When connecting video equipment with video output terminal


To audio output terminal
To video output terminal
To INPUT 3 terminal
To AUDIO INPUT 3, 4 terminal
Video Equipment
ø3.5 mm minijack to RCA audio cable (commercially available)
Composite video cable (commercially available)

When connecting video equipment with S-video output terminal


To audio output terminal
To S-video output terminal
To INPUT 4 terminal
To AUDIO INPUT 3, 4 terminal
Video Equipment
ø3.5 mm minijack to RCA audio cable (commercially available)
S-video cable (commercially available)

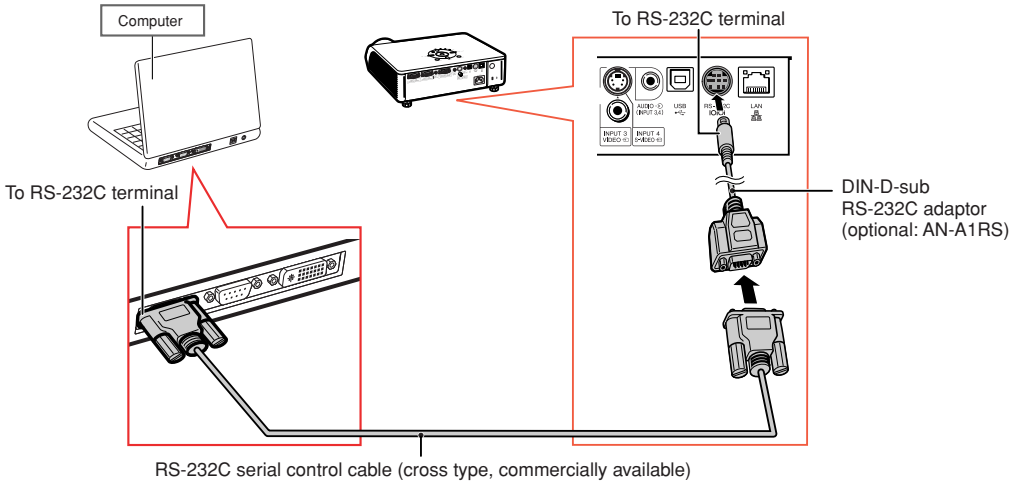
Note

• ø3.5 mm minijack to RCA audio cable (commercially available) is required for audio input.

Controlling the Projector by a Computer

When the RS-232C terminal on the projector is connected to a computer with a DIN-D-sub RS-232C adaptor (optional: AN-A1RS) and an RS-232C serial control cable (cross type, commercially available), the computer can be used to control the projector and check the status of the projector. Refer to the “SETUP GUIDE” contained on the supplied CD-ROM for details.

When connecting to a computer using an RS-232C serial control cable and a DIN-D-sub RS-232C adaptor



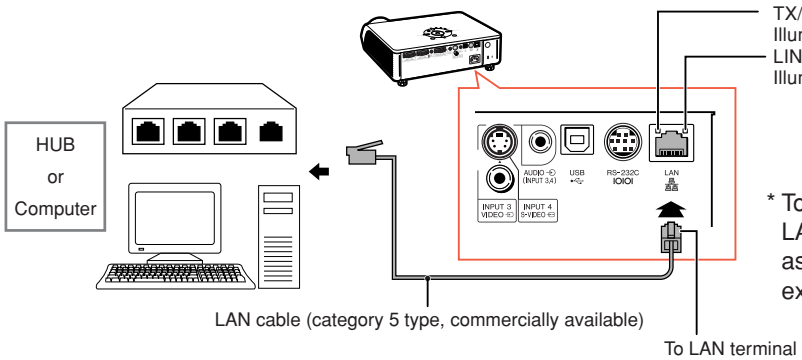
Note

- The RS-232C function may not operate if your computer terminal is not correctly set up. Refer to the operation manual of the computer for details.
- **Refer to the “SETUP GUIDE” contained on the supplied CD-ROM for “RS-232C Specifications and Commands”.**

Info

- Do not connect the RS-232C cable to a port other than the RS-232C terminal on the computer. This may damage your computer or projector.
- Do not connect or disconnect an RS-232C serial control cable to or from the computer while it is on. This may damage your computer.

When connecting to the LAN terminal using a LAN cable



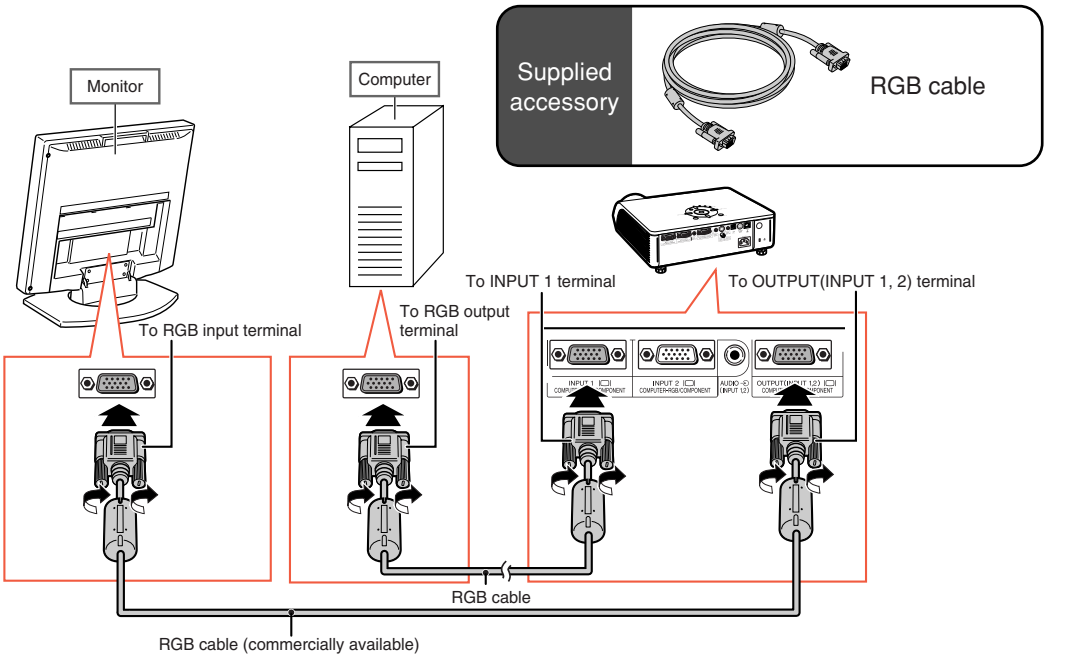
* To ensure safety, do not connect the LAN terminal with any cables such as a telephone line that may cause excessive voltage.

Note

- When connecting to hub, use straight-through category 5 (CAT.5) type cable (commercially available).
- When connecting to computer, use cross-over category 5 (CAT.5) type cable (commercially available).

Connecting to a Monitor with RGB input terminal

You can display computer images on both the projector and a separate monitor using two sets of RGB cables.

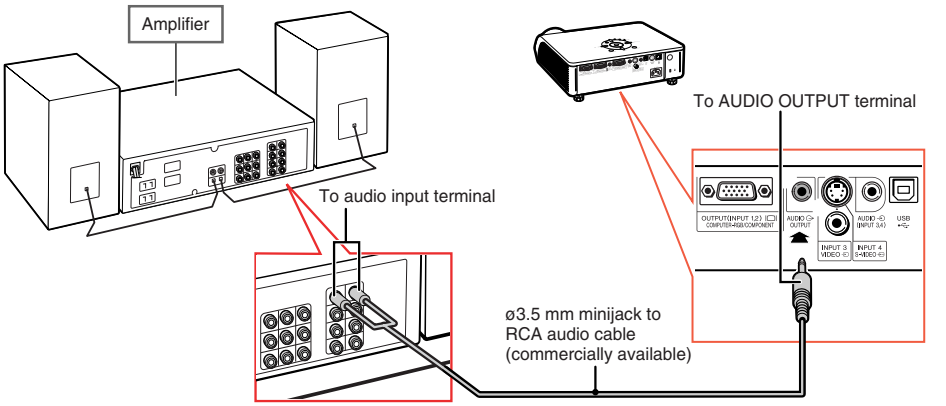


Note

- RGB signals and Component signals can be output to the monitor.
- For this connection, another RGB cable (commercially available) is required.

Connecting to an Amplifier or Other Audio Equipment

Audio signals input from equipment connected to each audio input terminal of the projector can be output to audio equipment.



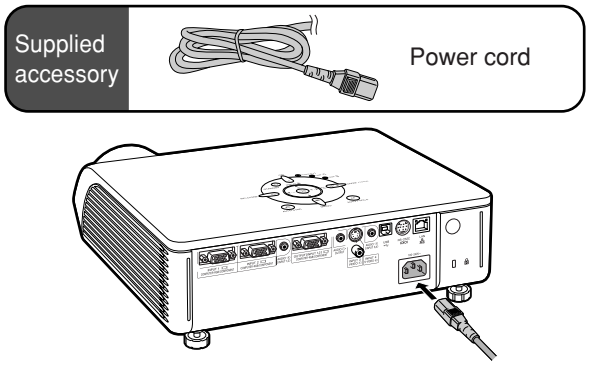
Note

- ø3.5 mm minijack to RCA audio cable (commercially available) is required for audio input.
- Turn off the power of both the projector and audio equipment when connecting.
- When turning off the power in the case of connecting an amplifier or other audio equipment, first turn off the power of the amplifier and then turn off the power of the projector.
- By using external audio components, the volume can be amplified for better sound.
- For details on Variable Audio Output (VAO) and Fixed Audio Output (FAO), see page 58.

Turning the Projector On/Off

Connecting the Power Cord

Plug the supplied power cord into the AC socket on the rear of the projector.



Turning the Projector on

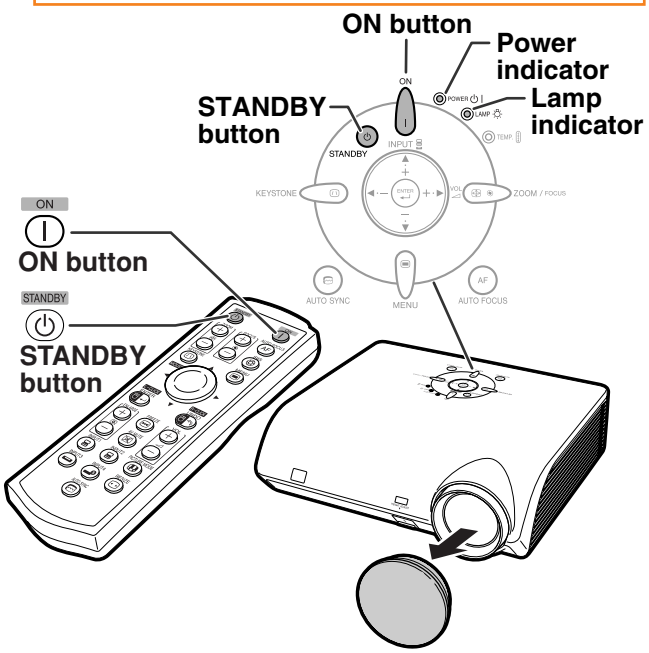
Before performing the steps in this section, connect any equipment that you use with the projector. (See pages 23-28.)

Remove the lens cap and press ON on the projector or ON on the remote control.

- The power indicator illuminates green.
- After the lamp indicator illuminates, the projector is ready to start operation.
- When System Lock is set, the keycode input screen appears. Enter the right keycode to start projection. See page 54 for details.

Note

- The lamp indicator illuminates or blinks, indicating the status of the lamp.
  Green: The lamp is ready.
  Blinking green: The lamp is warming up or shutting down.
  Red: The lamp is shut down abnormally or the lamp should be replaced.
- When switching on the projector, a slight flickering of the image may be experienced within the first minute after the lamp has been illuminated. This is normal operation as the lamp's control circuitry is stabilizing the lamp output characteristics. This does not indicate malfunction.
- If the projector is put into standby mode and immediately turned on again, the lamp may take some time to illuminate.



Info

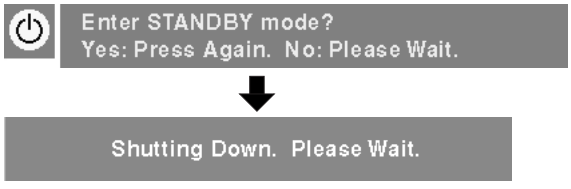
- English is the factory preset language. If you want to change the on-screen display to another language, change the language according to the procedure on page 62.

Turning the Power off (Putting the Projector into Standby Mode)

1 **Press STANDBY on the projector or STANDBY on the remote control, then press that button again while the confirmation message is displayed, to put the projector into standby mode.**

2 **Unplug the power cord from the AC outlet after the cooling fan stops.**

▼On-screen Display



Info

- Do not unplug the power cord during projection or cooling fan operation. The cooling fan in this projector continues to run for about 90 seconds after the projector enters the standby mode. This can cause damage due to rise in internal temperature, as the cooling fan also stops.

Using the Adjustment Feet

The height of the projector can be adjusted using the adjustment feet at the front and rear of the projector when the screen is located higher than the projector, the screen is inclined or when the installation site is slightly inclined. Install the projector so that it is as perpendicular to the screen as possible.

1 Press the HEIGHT ADJUST button.

- The front adjustment foot comes out.

2 Lift the projector to adjust its height while pressing the HEIGHT ADJUST button.

- The projector is adjustable up to approximately 12 degrees (7 steps).
- When lowering the projector, it may be difficult to move the front adjustment foot because the installation surface is difficult to slide. In this case, pull the projector back slightly and adjust its height.

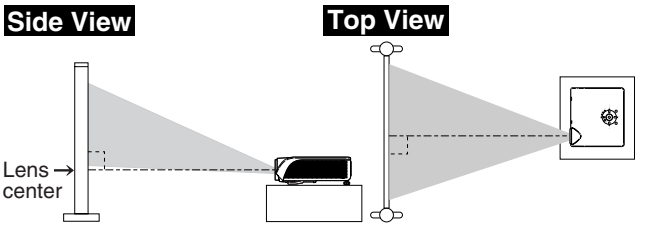
3 Remove your hands from the HEIGHT ADJUST button of the projector after its height has been finely adjusted.

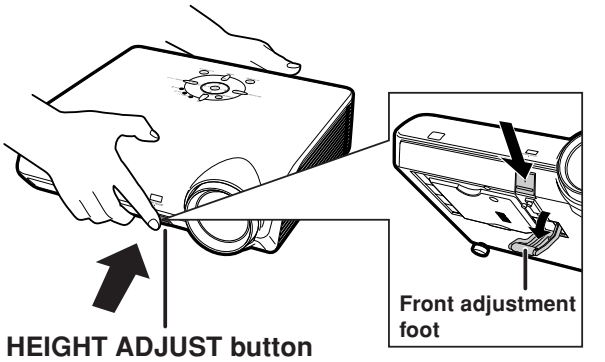
4 Finely adjust the height and inclination by turning the rear adjustment feet.

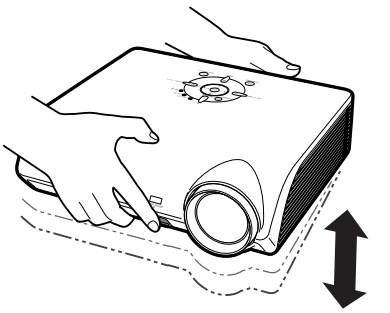
- When adjusting the height of the projector, trapezoidal distortion occurs. When "Auto Keystone" of the "Options2" menu is set to "On" (ON) (see page 57), keystone correction functions automatically to correct trapezoidal distortion. When you want to adjust the automatically corrected image, use the manual keystone correction. (See page 31.)

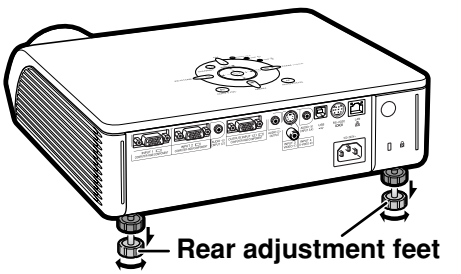
Info

- Do not press the HEIGHT ADJUST button when the front adjustment foot comes out without firmly holding the projector.
- Do not hold the lens when lifting or lowering the projector.
- When lowering the projector, be careful not to get your fingers caught in the area between the adjustment foot and the projector.









Correcting Trapezoidal Distortion

Auto Keystone Correction

When the image is projected either from the top or from the bottom towards the screen at an angle, the image becomes distorted trapezoidally. The function for correcting trapezoidal distortion is called Keystone Correction.
This projector is equipped with an "Auto Keystone Correction" function that automatically corrects any trapezoidal distortion within the projected image. The correction is made automatically provided the vertical incline or decline is within 12 degrees.

Note

- When not using the Auto Keystone Correction function, set "Auto Keystone" on the "Options2" menu to "OFF".

Manual Keystone Correction

When you want to make fine adjustments after the Auto Keystone Correction function has been activated, or when you want to make corrections without using the Auto Keystone Correction function, you can make corrections manually using the following procedure.

1 **Press KEYSTONE on the remote control to enter the Keystone Correction mode.**

- You can also use KEYSTONE on the projector.

2 **Press ▲, ▶ or ▼, ◀ on the remote control to adjust the Keystone Correction.**

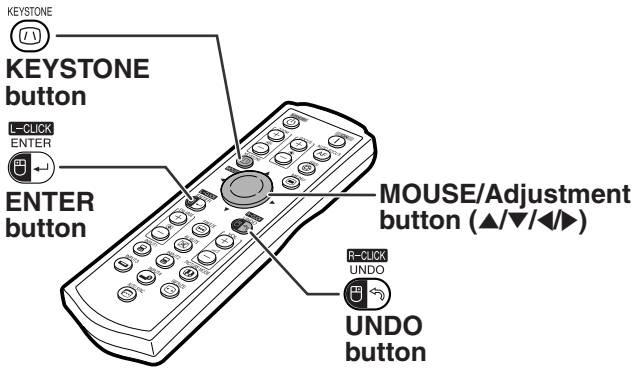
- You can also adjust the Keystone Correction using the ▲, ▶ or ▼, ◀ buttons on the projector.

Note

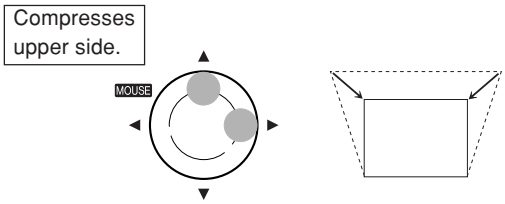
- Press R-CLICK UNDO to return to the default setting.
- Straight lines or the edges of images may appear jagged while adjusting the image.

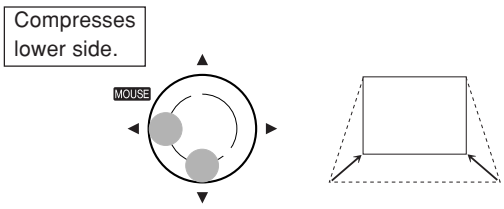
3 **Press KEYSTONE.**

- The on-screen display of the Keystone Correction mode will disappear.
- You can also use KEYSTONE on the projector.



▼On-screen Display (Keystone Correction mode)





Note

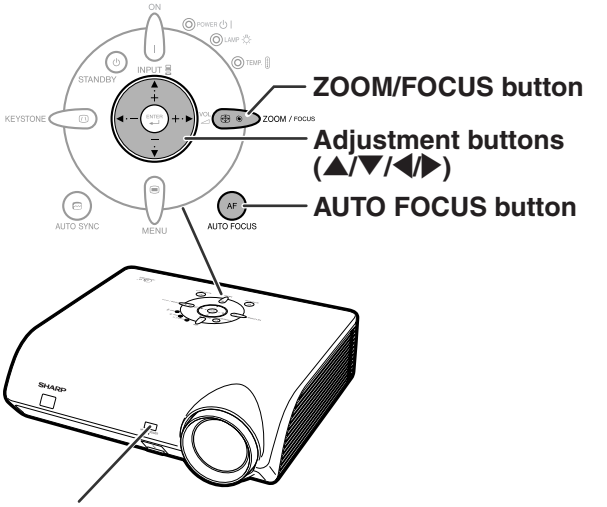
- The Manual Keystone Correction can be adjusted up to an angle of approximately ±35 degrees and the screen can also be set up to an angle of approximately ±35 degrees (when the resize mode is set to "NORMAL" (see page 36)).
  The screen can also be installed by inclining to that angle.
- The Keystone Correction cannot be adjusted in the lateral direction.
- You can use the same settings used in NORMAL mode 4:3 for 16:9.

Adjusting the Focus

This projector is equipped with an "Auto Focus" function that adjusts the focus automatically when it is turned on. When you want to readjust the focus after the Auto Focus function has been activated, you can operate the Auto Focus function using the following procedure.

Press AUTO FOCUS on the projector or AUTO FOCUS on the remote control.

- The focus is adjusted automatically after which the focus pattern is displayed, and the focus pattern disappears from the screen.



Auto focus may not function normally if there is an obstruction between the auto focus sensor and the screen, or if there is dirt or dust on the auto focus sensor. Remove any obstructions, dirt or dust.

Note

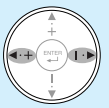
- Auto Focus can be performed over a range of 40 to 100 inches.
- The ability to adjust the focus automatically depends on the screen conditions and the surrounding brightness.
- Adjust the focus manually when the focus is not adjusted with Auto Focus or when you want to make fine adjustments.

When adjusting the focus using the buttons

on the projector

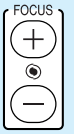
① Press ZOOM / FOCUS.

② Adjust by pressing ◀ or ▶.

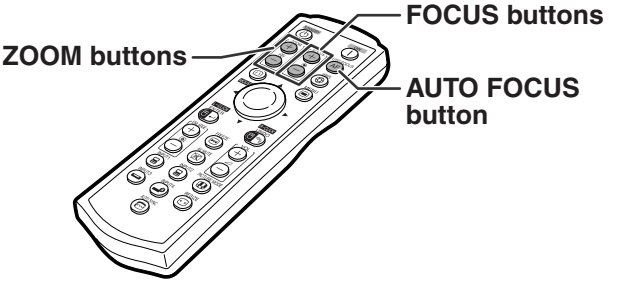


on the remote control

Adjust by pressing the FOCUS buttons.



- When not using the Auto Focus function, set "Auto Focus" on the "Options2" menu to "OFF".



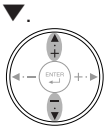
Adjusting the Projected Image Size

When adjusting zoom using the buttons

on the projector

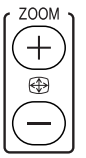
① Press ZOOM / FOCUS.

② Adjust by pressing ▲ or ▼.



on the remote control

Adjust by pressing the ZOOM buttons.



Note

- **Manually adjusting the focus or zoom**
  After you have pressed the FOCUS buttons or ZOOM buttons on the remote control, or after you have pressed the ZOOM/FOCUS button on the projector, you can display the test pattern by pressing the ENTER button. The test pattern is useful for making more accurate adjustments.

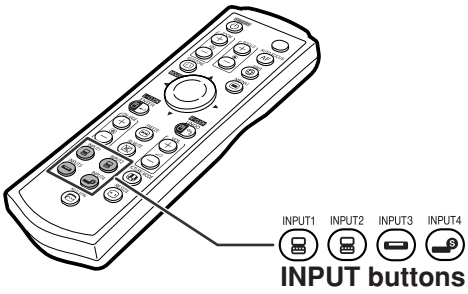
Switching the INPUT Mode

Select the appropriate input mode for the connected equipment.

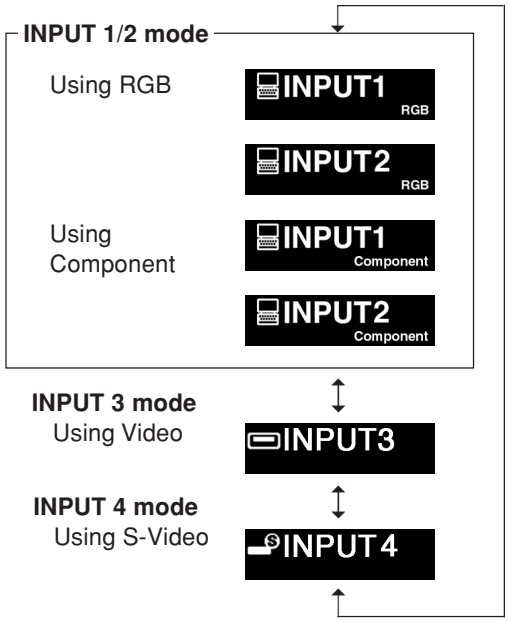
Press INPUT1 , INPUT2 , INPUT3 or INPUT4 on the remote control to select the input mode.

- **When pressing ▲ or ▼ on the projector, input mode switches in order of :**

INPUT 1 ↔ INPUT 2 ↔ INPUT 3 ↔ INPUT 4



▼On-screen Display of INPUT Mode (Example)



Note

- When no signal is received, "NO SIGNAL" will be displayed. When a signal that the projector is not preset to receive is received, "NOT REG." will be displayed.
- The INPUT mode is not displayed when "OSD Display" of the "Options1" menu is set to "OFF". (See page 51.)

About the INPUT mode

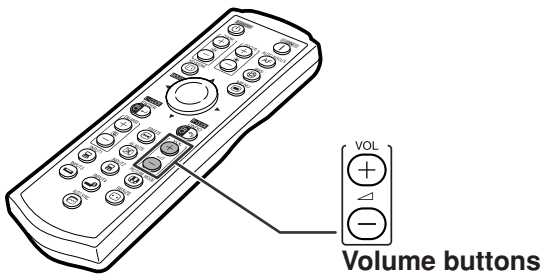
INPUT 1/ INPUT 2 (RGB/ Component)	Used for projecting images from equipment that sends RGB signals or component signals connected to the RGB input terminal.
INPUT 3 (Video)	Used for projecting images from equipment connected to the VIDEO input terminal.
INPUT 4 (S-Video)	Used for projecting images from equipment connected to the S-VIDEO input terminal.

Adjusting the Volume

Press ◀/▶ on the projector or VOL ⊖ / ⊕ on the remote control to adjust the volume.

Note

- Pressing ⊖ or ◀ will lower the volume. Pressing ⊕ or ▶ will raise the volume.



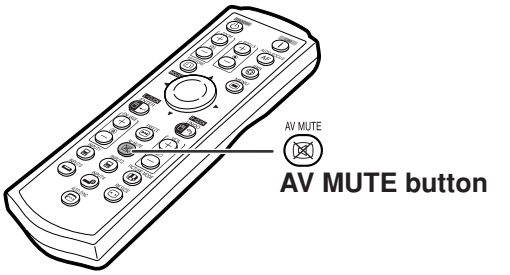
▼On-screen Display

Displaying the Black Screen and Turning off the Sound Temporarily

Press AV MUTE on the remote control to temporarily display a black screen and turn off the sound.

Note

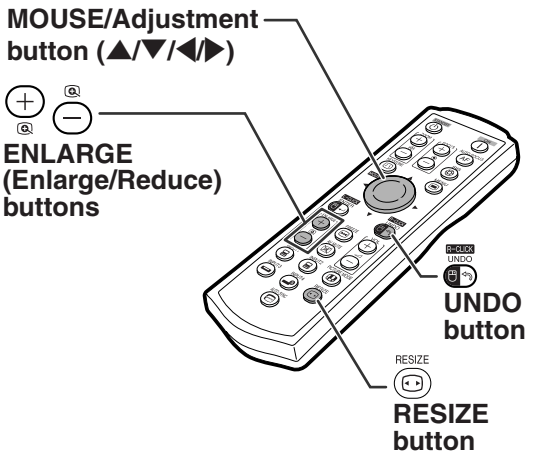
- Pressing AV MUTE again will turn the projected image and sound back on.



▼On-screen Display

Displaying an Enlarged Portion of an Image

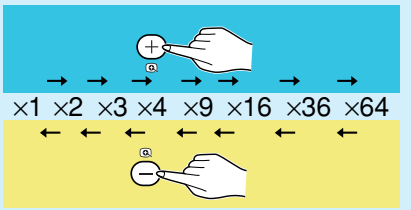
Graphs, tables and other portions of projected images can be enlarged. This is helpful when providing more detailed explanations.



1 Press + on the remote control.

- Enlarges the image.
- Pressing + or − enlarges or reduces the projected image.

Note



- You can change the location of the enlarged image using ▲, ▼, ◀ and ▶.

2 Press R-CLICK UNDO on the remote control to cancel the operation.

- The magnification then returns to ×1.

Note

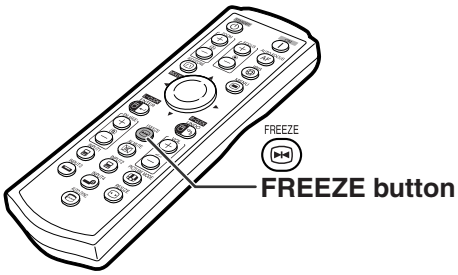
In the following cases, the image will return to the normal size (×1).

- When switching the INPUT mode.
- When R-CLICK UNDO has been pressed.
- When the input signal is changed.
- When the input signal resolution and refresh rate (vertical frequency) change.
- When RESIZE has been pressed.

Freezing a Moving Image

1 **Press FREEZE on the remote control.**
- The projected image is frozen.

2 **Press FREEZE again to return to the moving image from the currently connected equipment.**

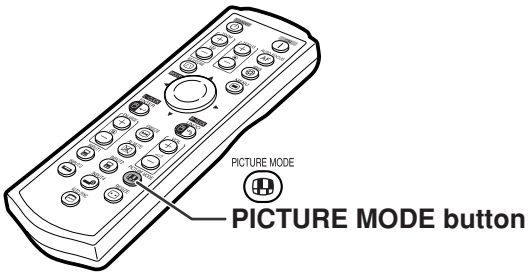


Selecting the Picture Mode

You can select the suitable picture mode for the projected image, such as movie or video game.

Press PICTURE MODE on the remote control.
- When pressing PICTURE MODE, the picture mode changes in order of

Standard → Presentation → Cinema → Game

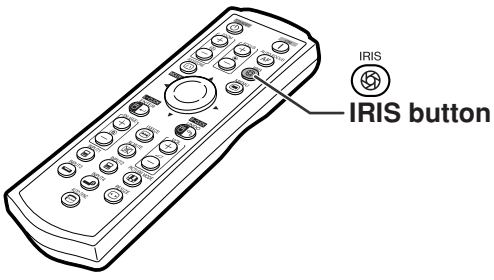


Note
- Press R-CLICK UNDO to return to the “Standard” mode.
- This function can also be accessed from the OSD menu (see page 44).

Switching the High Brightness / High Contrast Mode

This function controls the quantity of the projected light and the contrast of the image.

Press IRIS on the remote control.
- The mode is switched between “High Brightness” mode and “High Contrast” mode.



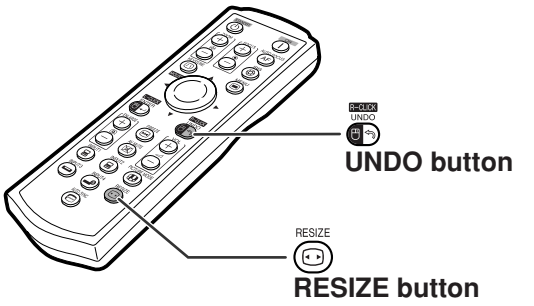
Note
- This function can also be accessed from the OSD menu (see page 46).

This function allows you to modify or customize the resize mode to enhance the input image. Depending on the input signal, you can choose "NORMAL", "DOT BY DOT", "BORDER" or "STRETCH" image.

Resize Mode

Press RESIZE on the remote control.

- Pressing RESIZE changes the display as shown on pages **36** and **37**.
- To return to the standard image, press R-CLICK UNDO while "RESIZE" is displayed on the screen.
- This function can also be accessed from the OSD menu (see page **50**).



COMPUTER

		NORMAL	DOT BY DOT	BORDER	STRETCH
4:3 aspect ratio	SVGA (800 × 600)	1024 × 768	800 × 600	768 × 576	1024 × 576
	XGA (1024 × 768)		—		
	SXGA (1280 × 960)		1280 × 960		
	SXGA+ (1400 × 1050)		1400 × 1050		
Other aspect ratios	SXGA (1280 × 1024)	960 × 768	1280 × 1024	720 × 576	960 × 576
	1280 × 720	—	—	—	1024 × 576

Input Signal		Output screen image			
Computer	Image type	NORMAL	DOT BY DOT	BORDER	STRETCH
Resolution lower than XGA	4:3 aspect ratio	*	*	*	
XGA	4:3 aspect ratio	*	———	*	
Resolution higher than XGA	4:3 aspect ratio	*		*	
SXGA (1280 × 1024)	5:4 aspect ratio	*		*	
1280 × 720	16:9 aspect ratio	———	———	———	*

* Mode for projecting an image with the original aspect ratio without cutting any portions.

: Cutout area on which images cannot be projected.

: Area where the signals are off screen.

Note

- If "Resize" is displayed when you have set "DOT BY DOT" and signals having a higher resolution than XGA are being input, you can move the image so that it appears entirely within the panel by using the adjustment buttons (▲/▼/◀/▶) on the remote control. (However, this does not apply when you have set "Resize" from the OSD menu.)